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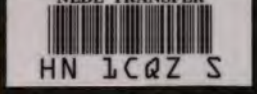
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MANUAL OF LOGIC:

BEING ONE OF TWO SEQUELS TO GRAMMAR ON ITS TRUE BASIS.

By B. H. SMART,

AUTHOR OF "BEGINNINGS OF A NEW SCHOOL OF METAPHYSICS;" "A MANUAL OF GRAMMAR;" "A MANUAL OF RHETORIC;" "WALKER REMODELLED;" "THEORY AND PRACTICE OF ELOCUTION;" &c.

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PREFACE.

THIS Manual of Logic is humble in its size, and form of publication; but in its *principles* it pretends to originality, and in its *purpose* to interfere with doctrines that have been advocated by some of the profoundest teachers of our kind. I wish, therefore, in this preface, to excuse such presumption as this very statement carries with it, and to soften, as well as I can, the prejudice which I may raise by making it.

First, then, for my pretensions to originality. I think I have the good fortune to start, in this work, with a few self-evident, or nearly self-evident principles, which have been overlooked by all who have gone before me in this department of learning. What they are, and how they affect the kind of instruction here proposed, will appear on an examination of the work; but I may as well indicate them at present, in order that the critical examiner may be prepared to trace their effect in the detail which follows. In the first place, I think it all but self-evident, if not quite so, that every single word competently used, is the sign of *knowledge*, and that, in calling it the sign of an *idea*, we either mean the same thing, or we have no distinct, definite meaning

in so using the term *idea*. Secondly, it appears to me another self-evident truth, that every act of the natural understanding which increases or which develops our knowledge, involves three things,—the thing newly-known or newly-recognized; the thing or things in some relation to it, by being aware of which relation, it *is* newly, or better known; and the knowledge itself; which knowledge it is the privilege of our species to entertain separately, (apart, abstractly,) so as to be applicable to other things hypothetically, in order, by inquiry, to push our knowledge further. If to others, as to myself, this statement should not convey a self-evident truth, I believe the obstruction to be no other than will be removed by the examples, furnished in various places throughout this work. Thirdly, it appears also self-evident to me, and, with less difficulty than attends the previous statement, will I think, appear evident to others, that words which join to make sense, lose their separate (their more abstract) meaning, in a meaning which they unite to signify; so that the longest expression which can be formed by words that, in this manner, make sense, are but as one single word, with reference to the sense which is thus attained and signified.

Such are the principles,—few, simple, and self-evident, or very nearly so,—which have nevertheless been overlooked, or at least, not considered up to their full weight, by those who have formed systems of logic, especially by Aristotle and his followers; by those who, in any past days, have

speculated on the laws of human thought, and on the origin, the nature, and possible compass of human knowledge. I take these principles with me in the execution of the little work which follows; with what success must be judged by its contents.

But while I speak thus confidently of the ground I take, I feel, and am ready to acknowledge, with deep humility, the imperfections that must be discovered in what I have done to build upon it. It is one thing to plan, and another to execute; and every-one, even from the size of my volume will be ready at once to say, *Parturiunt montes, nascitur*, &c.

There is another preconceived objection, which, I cannot help feeling, will stand in my way. I am nobody. I belong to no learned body. I have previously produced nothing that the world has much regarded. May I be permitted, without the charge of unnecessarily speaking of myself, to make such a statement, as, with impartial persons, will, I trust, have some weight against this objection.

A man can but do what the short space of life allows; and if his time has not been occupied in pursuits adverse to, and calling him away from some one pursuit in which he takes an interest, he may achieve, in that one pursuit, as much as another; —he may achieve much more than others of far greater natural powers, if he comes after them, and takes up what they have begun, but left unfinished. Such, I believe to be my predicament. Nor do I come forward for the first time, with the fruits of my inquiries. Twenty years ago, I published in

theory what I now offer in a practical work; having had abundant opportunity, in the intervening years, of testing, with pupils of various age, and of every degree of competency, the effect of such instruction as the following pages contain.

And now, if it be asked what sect or denomination of past teachers in logic and speculative science I adhere to,—I answer, to none. I have endeavoured to keep clear of all *extremes* in opinion:—I am not a Sensationalist with the French philosophers; I am not an Idealist with the German: I give no countenance to Materialism; and I hold not, with Berkeley, that there is nothing outward to the mind. I am not of the Scottish school; for I see no *scientific* ground for a Philosophy of the Mind in contradistinction to a Philosophy of Matter, or as a part of the Philosophy of Man, yet fitted to be treated distinctly from Man. I wonder therefore that Mr. MORELL, in his able History of Modern Philosophy, should have placed me among the *Scoto*-English Metaphysicians. The following pages will, I think, take me out of that category, and leave me purely English.

On points transcending Philosophy, I do not declare my creed; for those are points that lie beyond the limits of such a work as this; and I think the cause of religion is never served by *forcing* religious considerations into science of human origin. The structure built from the earth, ought indeed to prove its own truth by meeting and coinciding with truth that comes from the skies; and it must

coincide either now or eventually; for He who gives the light from above, also gives the power to raise the edifice from below. It is happy for me that what I happen to have reached, or imagine I have reached, of truth in these pages, does not, in any part, stand in contradiction to the doctrines of the Bible.

Something remains by way of advertisement to my Readers. I have placed in the Index at the end, some points that I was glad to exclude from the body of the work:—for instance, under the word Locke, I have indicated in what manner both Locke and Horne Tooke, after beginning well, went completely astray. I conceive myself nevertheless to be a follower of those two men; and only hope I have escaped the errors of my masters. If I have not been able thus to avoid other controversial points in making up what I intend for a practical work, yet I have so placed the more abstruse matter, that the learner may quite avoid it in pursuing his first Course of instruction. For his guidance, and that of the teacher who may not have time and opportunity to extract a better plan, I have given an Outline for a First Course of Logic in the Appendix. Under *Philosophy, Philosophers,* in the Index, I have furnished a brief memorial of the changes in speculative opinion among the Greeks, and a still slighter intimation of the movement of such opinion into times comparatively modern. Should the reader desire an account to the same purpose, something

more extended, and much more elegantly stated, he will find it in the "Philosophy of the Mind," by Mr. J. DOUGLAS of Cavers. If he should wish to know, beyond what he can learn from the hints scattered in this Manual, the state of Speculative Philosophy at the present day, he cannot do better than consult Mr. MORELL'S History previously alluded to. And if my meagre allusion, in the Index, to Schoolmen and Scholastic learning, should raise a desire to know more, Mr. HALLAM'S Introduction to the Literature of Europe, and Dr. WHEWELL'S two works, the History, and the Philosophy, of the Inductive Sciences, will supply all that can be needed.

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MANUAL OF LOGIC.

CHAPTER I.

OUTLINE THEORY OF LOGIC.

1. Logic is a branch of learning connected with Grammar and Rhetoric. While Grammar looks only to correctness of *construction*, or properly putting the parts of speech together so that they shall be accurate *forms* of language; and Rhetoric varies those forms in order to make them expressive of *emotion;* Logic looks to the *sense* which language has to convey, clear from any emotion which may, or may not be its effect. The sense of any single word is the knowledge which it signifies; the sense of two or more words put together, is the development of the knowledge included, or assumed to be included, in each of the separate words, and meeting in the more particular knowledge, which the two or more words unite to express. Thus *red* denotes the knowledge of what red is, derived from a great many particular things; *earth* denotes the knowledge of what an earth is, derived in the same way; while *red earth*, which is one expression for one meaning, indicates the development of the previous knowledge in one of the particulars assumed to be already included in the knowledge denoted by each separate word. We may call *red* and *earth* the premises of a conclusion which must rationally follow from their union: we may call *red earth* the conclusion from these premises.

2. The process of the understanding by which knowledge is accumulated and included under a sign, is called *Induction;* the process by which the knowledge so accumulated is spread again before the understanding in words, which being joined together, make evident *sense*, that is to say, make one expression with one meaning, is called *Deduction.*

3. The logical function of a word is one thing; its grammatical function, another: logical completeness is one thing; and grammatical completeness another. Take the four words,

Every man is mortal, separately, and each has a separate meaning; each is the sign of knowledge. The grammatical function is something added to this its logical function; but being added, it has this effect, that we are required not to rest in the meaning of the separate parts, but to go on till a whole is formed out of the parts, and to understand that whole as one expression for one meaning. But logical completeness may, or may not coincide with grammatical completeness. The construction is complete when we say *Every man is mortal;* yet we may go on developing our knowledge in forms of expression grammatically independent of each other, as when we add to the foregoing expression, *Every king is a man.* These two expressions which are grammatically distinct, have the same ground of logical connection as the following two, which are grammatical parts of one construction: *A king like every other man;* and, *Is mortal.* In both instances, the expressions signify premises involving a conclusion. In the former instance, the conclusion must be expressed, like the premises, in a sentence of independent form; *Therefore, every king is mortal.* In the other instance, we have but to put the two grammatical parts together, and the same conclusion will be signified; as, *A king like every other man is mortal.*

4. Every one who learns and uses a language learns and practises logic both *in*ductively and *de*ductively. A book on logic can do nothing more, and therefore ought to propose nothing more, than to assist this practice by unfolding its theory, in order that the practice may, as far as possible, be free from the mistakes and failures, to which all practice is liable, which is unsupported by correspondent theoretical knowledge.

Note to Chapter I.

To any one acquainted with the Science of the formal Syllogism, it will at once appear that the art or practice shadowed out in the previous brief sections, must be a logic distinct from Aristotle's. It is so:—yet it is the logic of our race,—with reference to which fact we may call it OUR logic, the logic in use—that always has been in use by mankind, including the Aristotelians themselves when not occupied within their especial domain. With this declaration, we might pass on, and leave the Aristotelians to themselves, if their science were not asserted to be the theory of *our* logic,—the science of reasoning as it is exercised by all man-

* The pages, on account of the common Index, follow those of the Manual of Rhetoric.

kind through the instrumentality of language. One writer indeed, understood, I believe, to be Sir William Hamilton, profound beyond any man of the present day in scholastic learning, appears to repudiate, although himself an advocate of formal logic, any blending of it with other doctrine, censuring, in a very learned Article of the Edinburgh Review (April 1833) "the attempts lately made to conciliate, to the *declining* study a broader interest than its own." Dr. Whately, then of Oxford, now the Archbishop of Dublin, has eminently succeeded in an attempt thus characterized. Of him, the reviewer says that he is "a very shrewd, and (what is rarer in Oxford) a very independent thinker." The effect of Dr. Whately's Oxford education, joined to his shrewdness and independence of mind, has been this,—that the logic of Aristotle, rejected by philosophy since she succeeded in throwing off the trammels imposed by the schoolmen, has, through him, regained a footing in *some* places,* which, but for him, she had lost for ever, "Oxford," as the reviewer observes, "being the only British seminary where the study of logic-proper" (formal logic) "can be said to have survived." Now as to this logic, we are ready to admit before proceeding further with ours, that it *is* a science, and it *is* an art, but a science and an art quite distinct from our logic, re-asserting that ours is the logic in use by mankind:—and what we have to say of Dr. Whately's treatise, is, that it owes its popularity not to what it contains of Aristotelian logic, but in spite of what it contains, by the excellence of the matter which he erroneously arrogates as a part of that logic. Had his volume presented nothing but what pertains to formal logic, we might have left him to whatever arguments can be found in its favour: but in order to bring it back into respect, he far transcends its proper sphere. First alleging, what is not true, that all reasoning whatever has its foundation in the principle of the formal syllogism, he proceeds to discourse, with admirable intelligence and skill, on the many causes of faulty induction; the notice of which properly belongs only to such a work as the present,—such for instance as the errors imbibed through the instrumentality of language, the force of prejudice on our thoughts, the crudities engendered by imperfect systems; which kind of matter we affirm to have no proper place within the limits of formal logic. How true an observation is the following! "A fallacy which, stated barely, would not deceive even a child, may deceive half the world when diluted into a volume." (Logic: Of Fallacies, III. § 6.) Of the soundness of this remark, it would not be easy to find a better instance than Dr. Whately's own volume. Let the logic of Aristotle stand separate and alone, and it cannot be saved from the neglect into which it was confessedly falling: dilute it through the excellent, but distinct matter, which forms the bulk of Dr. Whately's volume, and half the world are inclined in its favour. Of the half world thus biassed, one part will be incapable, and the rest indisposed, that is too idle, to dissipate the superinduced error; for, as Dr. Whately says in another place, "there is probably not one person in ten, who is physically capable of the degree of steady application requisite for embracing the principles of logic, or any other science; and, a much

* Wonderful to say, chiefly in America, the country celebrated for *going-a-head*.

greater number to whom this, though not an impossibility, is a very great difficulty." (Preface—early editions.) Thus, then, it is *possible* that Dr. Whately's "Logic," may have acquired a temporary popularity, in spite of a radical defect, which, when known, must vitiate the whole as a system, though what is unfairly made a part of that system cannot be deprived of its independent merit. And this *possible* defect we assert to be *actual*. The formal syllogism, which he makes the basis of his system, is not the basis of all reasoning. It is a purely *grammatical* contrivance for reducing every other form of expression to one single form, without any change of the mental act by which the knowledge signified was received. The things of sense inevitably suggest unnumbered relations to the understanding:—the following is only one of them,—that if a thing is contained in or under another, and this under a third, the first is contained under the third. But so plastic is language by the possible variation of terms, of propositions, and of larger forms of discourse, (all of which differ as *grammatical* forms only, without corresponding differences in the reasoning mind,) that we can, if we please, express any other understood relation, in the form strictly appropriate to one; through which possibility, we have a science, of which the enunciation of the one particular relation referred to above, is the axiom, while the art, (a purely grammatical art,) is the reduction of every expression to the one form, that so the axiom may be applied to it, and a demonstration scientifically ensue. In all cases this will be a demonstration of what is already *inevitably* understood;—as Dugald Stewart says,—the demonstration of a demonstration; and the practice will be, (so far as we keep to the practice which belongs to the science,) that, dismissing from the mind the things concerning which we reason, we shall reason *with* the words, and not immediately concerning the things the knowledge of which is included in the words: briefly, we shall reason *with* words, and not by *means* of words; the latter of which is proposed by *our* logic. The value of this art and science, needs not be here discussed: all we mean at present, is to assert its distinctness from our logic: more about it will be learned as we proceed. It may be sufficient to have stated thus much now, with the hope that what cannot be made quite clear to *our* student in the present stage of his progress, will become so as he advances.

CHAPTER II.

INDUCTIVE LOGIC.

1. Inductive Logic is the art or practice of gathering knowledge by the instrumentality of words. In every act pertaining to this practice, three things occur, the knowledge which the word already includes, the thing known by reason of this previous knowledge, and the increased knowledge which includes some other thing or things. What follows will, it is hoped, make this doctrine understood.

Theory of Inductive Logic.

2. We use a word inductively when, having some certain knowledge which it represents, we advance, by its assistance, to further knowledge, which we *draw under* or *into* the same sign. Let us suppose the word *red* was originally an exclamation uttered on first becoming conscious of that sensation;* and let us suppose that it subsequently loses its exclamative character, and remains a sign of that first knowledge:—when the sensation re-occurs, the knowledge re-occurs, and with it the sign; and by the aid of the sign, we are able to entertain our first knowledge of what *red* is, distinctly from the varying circumstances of its re-occurrence, and to include under it what is common to both occasions of knowledge; to include, for instance, under the same word *red*, the knowledge derived from the red of the crocus, and from the red of a certain earth; and thus we go on, including with our greater experience more and more knowledge under the same sign, till we have extended its meaning as far as convenience or the custom of language allows.

3. Let us take the word *man* as another example: let us suppose it was at first an exclamation uttered on first having knowledge of a creature that was not one's self, yet was like one's self: let us suppose it to lose its exclamative character, and to remain a sign of that first knowledge:—when another occasion of similar knowledge occurs, the former knowledge occurs with it, and the sign enables us to include what is common to both occasions; to include, for instance, under the same word *man*, the knowledge of what a man is, derived from the tall dark man, and the short fair man; and thus we go on till we include under the same sign all attainable knowledge of our species as distinguished from creatures of every other species.

4. Let us take the word *John* as a third example: let us suppose, that this was at first an exclamation uttered when we first knew *John* distinctly from self: let us suppose it to lose

* If we know nothing except by reason of something already known, it is a fair question to ask, how our knowledge can have had a beginning. This question, which needs not stop us here, I have endeavoured to answer in "Beginnings of a New School of Metaphysics;" Second Essay (Sequ[illegible] page 73.

its exclamative character, and to remain as a sign of this our first knowledge of John:—when another occasion of knowing John occurs, the former knowledge occurs with it, and we now know him distinctly from each occasion in particular,—from the occasion when he was walking cheerful in the garden, and this new occasion when he is lying sorrowful on the bed. Thus we go on, augmenting our knowledge of John, by familiarity with him under various circumstances of his existence, and including this knowledge in the sign which is his proper name.

5. Let us take the word *proud* or *pride* as a fourth example: let us suppose it to have been an exclamation, when, for the first time, some one person was known to treat another proudly: let it lose its exclamative character, and remain a sign of that first knowledge: the next occasion of similar knowledge may be quite different in persons and circumstances; yet, with the aid of the sign, we are able to hold our knowledge of what it is to be proud, or to have pride, distinctly from the variable circumstances; and by the same aid, we can go on increasing this knowledge, by deriving it from a larger and larger number of instances; and including our enlarged knowledge in the sign which helps us onward to still larger.

6. We shall better understand the previous representation of the manner in which our knowledge is increased, and of the use of signs in fixing and helping it onward, by a few further considerations.

First, we have to consider that all our knowledge is originally derived from the things of sense.* Yet a sensation is

* This, as it is well known, is Locke's doctrine; a doctrine which, carried out on mistaken principles by some of his followers, particularly in France, has issued in what is called *Sensationalism*. The philosophers of this school propose to show that all ideas begin by being sensations, which doctrine another school of philosophers, chiefly Germans, oppose by what is called *Idealism;* or the assertion of certain principles or original ideas existing in or being a part of the mind itself. Extremes of opinion seldom fail to be erroneous; and as seldom does it happen that, before the extremes are reached, there is not, in whatever opposing doctrines, some truth on both sides. With regard to the statement in the text, *if taken in connection with what immediately follows it*, it can scarcely give offence to either of the parties just alluded to:—the Idealists cannot say that we reduce everything to sensation; nor can the Sensationalists aver

not knowledge; nor can it, by itself, create, or be created into knowledge: there must be a knowing faculty, or capacity to know. Now, to know a thing is to be aware of its relation or relations to some other thing or things: to know red, for example, there must be something else known at the same time with it: we must know blue, black, or white, &c., at the same time that we know red. Wherever there is knowledge, there are therefore premises, of which that knowledge is the conclusion; and *red* expresses a conclusion out of such premises. Neither do we know what man is, but by knowing at the same time what is not a man: neither do we know John as an individual, but by being aware of John's existence distinctly from the changeable circumstances of his existence: neither do we know what it is to be proud or have pride, but by knowing what it is not to be proud. In all these instances, (and in all other instances it is the same,) the word which signifies knowledge, signifies a conclusion arising out of premises.

† In this process of gathering knowledge, we suppose the previous knowledge and the new phenomena to be so brought before the intellect, that an inference instantly arises. But new phenomena often present themselves under circumstances that ought to occasion doubt; and we then exert or ought to exert some consideration before we admit an inference; which is called a use of our JUDGEMENT. This is a voluntary act, and upon it we lay the blame or praise of the inference. We have, for example, a new substance before us which *seems* to be an earth, and we include it under that name. If it turn out not to be an earth, we say our judgement has deceived us, and what we calculated upon as warranting a conclusion in the deductive process, remains a faulty inference in the inductive. This observation was proper to be made in this place, though it needs not further impede the development of the theory in progress.

7. Secondly, then, (to go on with our theoretical development,) we have to consider that a sign cannot legitimately

that we suppose the existence of original ideas, inasmuch as we go no further than the supposition of a power or capacity to receive knowledge; although, as it should seem, contrarily to the Sensationalists, we affirm it to be a power or capacity distinct from the capacity or liability to have sensations.

signify more knowledge than we have attained; and that, of such knowledge, it may signify just so much as our immediate purpose requires. We may, for instance, use the word *red* only as the sign of knowledge derived from the experience of one thing that produces the sensation, and from want of experience; or by choice, we may exclude from the meaning of the word the varieties of red derived from a wider experience, for which, by the custom of speech, the word may be the sign. We may use the word *man*, through ignorance or by choice, only to signify our knowledge of what a man is, distinctly from a boy or a woman. We may use the word *John*, by necessity or choice, to signify no more knowledge of him than the slightest acquaintance gives to any person; and not even so much knowledge as this, but only the knowledge that John exists or has existed as an individual person. We may use the word *proud* or *pride*, only as the sign of knowledge derived from the single action of one single person toward another; and not include under it that wider knowledge which greater experience brings. In all these instances, (and all single words would but multiply the instances,) the sign is legitimately used, provided our knowledge and the sign are coextensive, and we do not confuse our natural understanding by using the sign to supply the place of knowledge.

8. But thirdly we have to consider that all our knowledge is not gained by our own experience: we depend, as a race, in a very great degree on the experience of others, and take our knowledge, in large proportion, on credit. Hence we embrace, as our own knowledge, all the credible parts of past history; all that is reported to us of credible present history; nay, all the facts of experimental science, which others and not ourselves have arrived at, and which we may have never witnessed, but believe to be.

9. And while, with the assistance of a carefully applied logic, we are becoming, by experience, and by fairly received testimony, better and better acquainted with the *real* world, there is an *ideal* world, always enlarging, which we have to keep clearly understood in its relation to the other. Our senses, after having been operated upon by the things fitted to affect them, are not quiescent even when the things are no longer present: the nerves of those senses work internally, though the outward organs are not impressed, and the things

re-appear, but in such a manner that we cannot fail to distinguish them from the realities, unless in a state of sleep when the realities are quite absent, or in certain states of disease which preternaturally affect the nerves of those senses. Supposing, then, a healthy waking state of the faculties, we have to keep our knowledge of the one world clear from any confusion which must arise from mingling the things of the other as a part of it; and this point being secured, we find that as transcripts of the things of the real world, those of the ideal materially assist the understanding in the inductive part of learning.

Note to the previous Section.

The ideal world here spoken of, does not consist of the ideas of Platonic philosophy; these, under our own point of view, we have to speak of in the next section; it is a transcript of the outward world as it has reached the understanding through the senses. But the character of this ideal world must depend on the senses through which it has been received. We commonly mean by it a transcript of the *visual* world. Now this it cannot be to one born blind, or so early deprived of sight as to be equally circumstanced. Yet such a one, (witness Blacklock the blind poet of Scotland,) has an ideal world as complete, apparently, even for poetry, as the ideal world of him who enjoys the full sense of vision. Do we not attribute to Sight, as the inlet of the ideal world spoken of, a greater instrumentality in the reception of our earliest knowledge than it can fairly claim? I have before me what I consider a most able philosophical treatise communicated by the author, of whom I know nothing beyond the favour of his gift sent without date or mention of residence, the title of which is,—"The Principles of Geometrical Demonstration deduced from the original Conceptions of Space and Form: by H. Wedgwood, M.A. late Fellow of Chr. Coll. Camb.;" (Taylor and Walton, 1844;) in following out which deduction, the author shows, that not our *visual*, but our *tactual* impressions, are the early inlet of all the fundamental knowledge placed within the reach of our species.

10. In pursuing the theory of inductive logic, we next find, that beyond the things of sense and the ideal things that reflect them, there are things, the pure abstract stores of the understanding, in following the relations of which, the understanding enjoys a peculiar triumph, as moving in a world entirely its own. These things are properly called *transcendental* or *metaphysical*, because they *transcend* real and ideal things,—because they lie *beyond* the bounds of *nature*.* Every single

* Μετὰ beyond,—φύσις nature. It is doubtful, however, whether the term *Metaphysics* was at first meant to be understood as here explained.

word whatever has its immediate correspondence with such a thing, and only through the medium here indicated has it a correspondence with the things of sense: that is to say, knowledge itself is always metaphysical, though the things we first know, are always things physical. The knowledge, for instance, which we have of *red* is not, itself, either the real or the ideal sensation of red, but something above or beyond it:* the knowledge which we have of *John* is not John himself, and it transcends, or is abstract from, our actual perception of him, and from any idea, that is, image of him which we distinctly form; since in either of these cases, John must be perceived or conceived sitting, standing, lying, or walking, sick or well, older or younger; while the knowledge we have of John, though it includes all these circumstances as they have arisen in our experience, is nevertheless separate from them, since to know John, is to know him distinctly from and beyond those variable circumstances, and from and beyond every other variable circumstance that has arisen in our experience, or may arise:† the knowledge which we

* Not distinguishing between these is the fundamental error of the Sensationalists. Mr. James Mill, who is one of them, lays it down as a fact that to be in pain and to be conscious of pain, is one and the same thing: it seems so indeed, because, in the recollected experience of every one of *us*, they always come together. But if any one had existed in a single continued state of pain from the moment when sensitive being commenced,—(it may seem strange to say, but philosophical reflection will show it to be true,) he would be in what *we* call pain, yet would not know what it was; which is only another way of saying, he would not be conscious of it. If further words could make plainer, what perhaps is beyond the reach of an understanding that requires more than a few minutes reflection to embrace it,—we might say that one unchanging state of existence such as we have supposed, would not be a state that *happens* to the person,—it would be his very existence, his *very self*. *We* know or are conscious of pain, because we know what is not pain, what is relief from pain, what is pleasure. So we know pleasure because we know pain; we know good because we know evil, and evil because we know good.

† The following passage from Dr. Whately's Logic, is to the same purpose. "When we are speaking of an individual, it is usually an abstract notion that we form; *e. g.* Suppose we are speaking (in 1847) of the present King of the French; he must actually *be* either in Paris or elsewhere; sitting, standing, or in some other posture; and in such and such a dress, &c. We abstract from the separable accidents what we consider essential to the individual, thus forming an abstract notion of the individual." (Book II. Chap. V. § 2.)

have of man transcends, in like manner, the perception or conception of any man in particular; and the knowledge we include under the word *proud* or *pride* is knowledge abstracted or separated from any other knowledge we entertain of the persons who are proud. Now though all knowledge is originally derived from the things of sense, and is of value to us here only in proportion as it is re-applicable to them; yet we have the power, as we advance in knowledge, to dismiss the real and ideal things from which it is derived, and to begin with the knowledge, abstract from the things, as the ground of a higher kind of knowledge; a knowledge which is often distinctly called *Science*. Thus, for instance, without any regard to the *real* or *ideal* points, or straight lines, or circles, that originally suggested our knowledge, we can take the knowledge as the ground of knowledge to spring from it: in which proceeding, the point is not something we can see or feel, or imagine we can see or feel; the straight line is not something straight relatively to something that we can see or feel to be crooked; the circle is not the circle of the sun or of the full moon: but the point, the straight line, the circle, is separate from the times and the things that first made us know what a point is, what a straight line is, what a circle is.

Note to Section 10.

In a foregoing note (the former foot note above) we attempted a stand against the Sensationalists. We may now attempt one against the Idealists, in order, if possible, to keep the medium in which the truth is generally found. The philosophers last named inculcate, after their own manner, the old Platonic doctrine of ideas which exist originally in the mind, and give form and consistency to all the things of sense. This is an extreme, which, inasmuch as it is *un*proved and *un*provable, our slow steps cannot reach. Neither can we see any necessity for supposing these ideas; while we admit, on the other hand, against the Sensationalists, that the things of sense could give us nothing but sensations, if there existed not a distinct power, or distinct powers, through which we have *knowledge* also; that is, through which we are aware how the things producing sensation, stand related to ourselves, and (still with relation to ourselves) stand related to each other. We admit, (with an eminent English Idealist,) that sensations are not TRANSformed into ideas; (See Whewell's Philosophy of the Inductive Sciences, Aphorisms concerning Ideas;) and we admit, (stipulating for our own mode of interpretation,) that they are INformed, namely, that they are received by the understanding in order to take the character of knowledge; our objection to the theory of ideas as a mode of accounting for the fact, being this, that, inasmuch as it is a gratuitous doctrine, it

carries mystery with it, such as, we think, must leave good common sense unsatisfied, while it has a *prestige* for minds that love the marvellous. In short, we admit thus much, and no more,—that the things of sense are adapted to reach man's intellect through his senses, and that his intellect is adapted to receive them; that is, to be aware of the relations in which they stand to each other, but always with a regard to himself, created as he is to understand them in an appointed way: a statement which will appear the more reasonable, by reflecting that among these things he is placed, and among these only, during his present state of existence.

But, say the Idealists, there are ideas that form the things of sense, for which we in vain seek the originals in the outward world. Let us take one of these ideas to serve for the rest, and see how, with our views, we can explain its existence;—let it be the idea (as it is called) of a straight line. Now, we admit that there is no line in nature which we can prove to be straight, nay that there is no line in nature which probably *is* straight, and consequently that no idea, in our sense of the word idea, namely, a mental transcript of the outward thing, reflects to us that which is certainly straight. Whence, then, do we obtain the knowledge of what it is to be straight, independently of these *physical* conditions;—whence, in other words, do we get at the *metaphysical* straight line? We answer, that the fact is sufficiently interpreted when we admit, what surely cannot be denied, that all knowledge is abstract, and consequently free from physical conditions. And our knowledge of the special fact before us thus begins:—we have before us a line which is sensibly crooked, and another which, relatively to the former, is straight. Our original knowledge of the straight, is therefore the *relatively* straight. But this original knowledge becomes an abstraction by merely setting aside all the particular instances which led to it: and then our knowledge is expressed by this definition, that a straight line is a line which is not crooked. In this way, though our knowledge began with the *relatively* straight, we are able to speak of what is straight *absolutely*; but we speak of it in words only: the thing itself is unknown, either as existing, or possible to exist. How, again say the Idealists, could you speak of the *absolutely* straight, unless the previous *idea* (in their sense of *idea*) existed in the mind? We answer, that we are able to do so, by a repetition of the process which has just been indicated. To the human understanding nothing absolute exists in reality, but the *relatively* absolute. But the abstraction of that knowledge exists. In calling this abstraction an *idea*, Kant and the other Idealists dwell upon the fact, and make much out of the fact, that it lies beyond the limits of time and space. This of course we do not deny. We object only to the *mystery* of their explanation. Let it be admitted that a metaphysical straight line exists only in our knowledge of what a straight line is, namely, a line that is not crooked: to such knowledge it matters not whether the thing exists or not. The knowledge, however, is re-applicable to every line which is straight to our senses, that is, *relatively* straight: if it were not so re-applicable, it would be an *empty* abstraction, of no use but to darken understanding with the appearance of knowledge.

PRACTICAL REMARKS BASED ON THE FOREGOING THEORY.

11. The use of words to fix our knowledge, and carry it onward to further knowledge, is the true process of inductive logic; but it too often happens that words are used to hide the want of knowledge not only from others, but even from the thinker himself. The education which is conducted through the medium of books, makes a young person familiar with words, far more rapidly than he can become acquainted with things: nor would there be mischief in this, if he were aware of his real ignorance,—if he regarded the words which he hears, or reads, or repeats by rote, as signs, to a very great extent, not of what he yet knows, but of what he has to learn. The danger is, that he will deceive both himself and others, by mistaking his familiarity with the signs of knowledge, for the knowledge itself. Nor can anything be said to warn him against this error, which has not often been said before,—the common sense of mankind, independently of theory, having prescribed to the young student, from time immemorial, the duty of asking himself what meaning he has with every word he uses, or professes to understand; and the necessity of betaking himself to the ordinary ways of learning, when his knowledge falls short of his language. One powerful method of bringing him to a consciousness of his deficiencies in the inductive process of logic, will be, to require from him proofs of his knowledge in deductive essays or *themes;* the nature and methods of which are to be spoken of hereafter. These essays, it is expected, will be an occasion of frequently sending him back to the inductive process, to supply what has been unconsciously omitted. In the meantime, he may be saved from a great deal of fruitless use of words, by attention to the following considerations:

12. All unrevealed knowledge springs originally from the things of sense; and though in its nature abstract from those things, its truth or reality can be tested only by its re-applicability to those things. By our own experience (meaning of course the experience of our kind) we can know nothing beyond these things; and though it is the height of presumption to believe that nothing beyond our experience remains to be known, yet it is almost equal presumption to pretend that we do or can of ourselves know more. Into such presumption,

however, we are often led, by the empty abstractions which language generates. 'Language enables us to talk and even think with little knowledge, with less knowledge, and even beyond this, with no knowledge at all. The error, in any of its degrees, arises out of the power of abstracting knowledge from realities; and, in its extreme, it will always be found to consist in using a sign where nothing at all is signified, except our inability to carry our knowledge further.' We must go back to our previous theory in order to make this general caution properly understood.

13. In the metaphysics of quantity, we are saved from wandering among proofless abstractions, by the constant applicability of those abstractions to the things of sense; and during the progress of our learning, we are, at every step, reminded of the connection between the two,—for instance, between the metaphysical point, or line, or circle, and every *real* point, line, or circle,—by the sensible or ideal representation we carry with us.

14. So likewise in making *red*, or *John*, or *man*, the subject of our thoughts,—although each word corresponds immediately with an abstraction, yet we are saved from inutility of thought, by the constant re-occurrence to our senses of the individual things from which our knowledge is derived, and to which the word is immediately re-applicable, so as to prevent the danger of supposing we know what we are partially or wholly ignorant of.

15. Such, however, is the mechanism of language, that a word may not only signify the abstract knowledge of a real thing, or real things, (and this is what every word must signify if it signifies anything, because knowledge is by its nature abstract from the thing known,) but the word, before it descends to the real thing or things, may be the name of an abstraction, which abstraction, if it means anything, means the knowledge of the real things which suggested it. Let the following be our example of the manner in which this double abstraction takes place. Suppose the word *Proud* to have been originally a proper name applied to an individual from his known character:—no delusion of thought is likely to arise while the word is so applied and understood:—Suppose, in the second place, that the word is used adjectively before the proper name of another person, as *proud John*, in which

application the word indicates that *John* and the former person are understood to agree in character: again, no delusion of thought is likely to arise; for though we may, for a moment, have understood, under the word *proud*, something separate from *John*, yet the grammatical form of the word will have prevented our resting in that separate meaning beyond the first moment: on the junction of the two words, we understand them as one name for one thing, and are in no danger of confounding the metaphysical separation and distinctness, with a real distinctness,—of supposing, for an instant, because *proud* and *John* are two words, that *John* is resolvable into two correspondent things. But when, without any change in the logical import, we change the grammatical function of the word,—when instead of *proud* we say *pride*, we take the word away from that which would realize its meaning. and render it not merely the sign of abstract knowledge, but the *name of an abstraction*, and we have, in consequence, to descend a step lower before we get to the realities which that abstraction includes, or ought to include, as the things known by it. Now, the danger is, that the thinker or reasoner may never have begun with, or may never go back to take, this lower step; that he may discourse to himself or others concerning pride,—"passion, or apathy, or glory, or shame,"—without knowing by experience precisely what he means; in which case, his discourse must be "vain wisdom all, and false philosophy." *

16. It is further to be remembered, by way of caution, that the forms of language into which abstract names are joined, contribute in no small degree to a delusive use of words in the acquirement of knowledge. We speak, for instance, of *the pride of John*, or *John's pride*; of *pride belonging to John*, or *John possessing pride*, in phrases of the same form as when

* Others apart (other devils) sat on a hill retired,
In thoughts more elevate, and reasoned high
Of Providence, Foreknowledge, Will, and Fate,
Fixed-fate, Free-will, Foreknowledge-absolute,
And found no end, in wandering mazes lost:
Of Good and Evil much they argued then,
Of Happiness and final Misery,
Passion, and Apathy, and Glory, and Shame;
Vain wisdom all, and false philosophy!
Par. Lost, B. II.

we say *the brother of John*, or *John's brother*; of *houses belonging to John*, or *John possessing houses*. It cannot but be evident that such similarity of phrase must have the effect of misleading a thinker, who trusts to the forms of language, and is not in the habit of considering the things to which those forms are applied. In the instances before us, we have to remember, that there is no such real thing as pride distinct from John, and persons like John in character; but that there are such real things as the brother of John, and the houses belonging to John, distinct from John himself: that is to say, pride is a thing metaphysical or abstract, but John's brother, and John's houses, are realities.

17. Suppose, in the next place, that there is nothing within the reach of our human powers to which a word or phrase is applicable, the proper interpretation of such word or phrase when attempted to be so applied, is, that it stands as the sign of our *ignorance*. When we say infinite or endless space, infinite or endless time, all we know or can know of those things, is, space endless *relatively* to ourselves, time endless *relatively* to ourselves: what time or space may be beyond our experience of what it has been, and what it continues to be, we know not: we can take the known portions of time or of space, and think of such portions as still going on; but this is time or space *unended*, and not *endless*, unless, as before said, we understand *endless* to mean *relatively* to ourselves; that is, only so far as our race can have experience. The same reasoning belongs to such words as absolute, perfect, complete: we know nothing, and can know nothing but the *relatively* absolute, the *relatively* perfect, the *relatively* complete. We are justified, nevertheless, in applying these words to the Divine Being; but let it be remembered that when so employed they do not bring the nature of that Being within the reach of our faculties: they say, if they say anything, that however well we may understand what it is to be absolute and perfect when things of sense are in question, we apply the words in reverence only, without pretence to knowledge, when we apply them to God:* we use them as signs that represent what in merely human science, is unknown and unknowable; and so

* See Whately's Logic (*Ambiguity of "same"—Logomachy*, &c. Book IV. c. v. § 1) in confirmation of this point of view.

used, they are serviceable elements in the structure of human language. This indeed is the only way in which empty abstractions, that is, abstractions which throw realities quite out of question, can be legitimately used: and our system of inductive logic having reached this point, makes no pretence to go beyond it.

Note to Section 17.

And just where we leave off, METAPHYSICS, in their usual form and purpose, begin; especially the Metaphysics of Germany. The strength of the systems which arise in that country of interminable speculation, consists in their being *unprovable:* for how shall we set about disproving that, which, as it lies beyond the reach of proof, is equally beyond the reach of contradiction. The German philosophers employ the abstractions, all of which are obtained originally from the things of sense, to interpret things which lie completely beyond our present state of existence. So employed and so applied, they are hypotheses; and if it were possible to establish them by inductive proofs, we might accept them on credit till the proofs were added. But the proofs are impossible, and the demand is preposterous that we shall accept mere supposition for science. Call these systems romances, and we may dip into them, perhaps, without danger. That they are nothing more, is evidenced by the fact, that one of them is no sooner promulgated, than it gives occasion to another to dispute its pretension, Kant is succeeded by Fichté, Fichté by Schelling, Schelling by Hegel: a kaleidoscope has not more shapes for the eye, than metaphysics for the German mind. The mischief is, that these systems pretend to be more than romances: they pretend to carry the human intellect into the impenetrable unknown which everywhere surrounds us. A lively faith can irradiate this unknown with a light from itself, and take away all its gloom, without pretending to see into it with the eyes of human reason: but these metaphysical romancers come with false lights, offering what they call *science* in place of *faith*. "To-morrow," Fichté is reported to have said, in the adjournment of the next point of his lecture, "to-morrow we shall create God." Had his pretence been only to offer a romance, the announcement, though profane, would have been harmless; for who, as he proceeded, would have been ready to say, "I believe in Fichté, the maker of God?"

RECAPITULATION OF DISTINCTIONS AND DIFFERENCES.

18. All knowledge is abstract, that is, separate, and of a different nature, from the things that originally suggest it. These things are real things, the things of sense; and the way in which we unavoidably understand them, is, that they exist distinctly from oneself. But beside *real* things, there are things *ideal*, and things *metaphysical*, which become the subjects of knowledge.

19. Ideal things are those which we imagine to exist dis-

tinctly from oneself, by a voluntary delusion which our better knowledge can at any time set aside; as a fairy, a gorgon, Lilliput. Of ideal things, some are altogether fanciful; but others are more or less accurate representations of real things that are, or have been; as, London, Adam, Leviathan, Babylon.

20. A thing metaphysical is a state of one's thinking self, which state we can make the subject of higher knowledge. It is different both from real and ideal things, though liable to be confounded with them. Thus the metaphysical straight line or circle, the moment it is realized, or imagined, ceases to be metaphysical. Thus, though we can personify *Virtue* or *Pride*, we cannot in any other way think of pride or of virtue as having real existence. But we can know what *virtue* is, and what *pride* is: that is, we can know a certain state of one's thinking self as having been a state of previous knowledge, —the knowledge that such and such men acted in a certain manner, so as to be approved in the one case,—to offend in a certain way in the other. If indeed we have no such previous knowledge, and yet talk of *virtue* or of *pride*, the words are empty names that only serve to conceal ignorance.

21. All words that are parts of speech are signs of things metaphysical. But some of them can be immediately applied as names of things real, or ideal; while others can be applied only as names of things metaphysical. Thus the name *John*, the name of a familiar friend, although it signifies our knowledge of him abstractly from all the circumstances under which we have known him, can be re-applied to him in connection with any circumstances under which we may know him again. Thus the name *man*, the name of any one of our species, although it signifies our knowledge of what our species is, abstractly from any one of our species, can be re-applied to any one of that species. But the name *virtue* or *pride* cannot be applied to any thing real, or to any thing ideal, except by poetical personification: it can be applied only as the name of previous knowledge, and if we have not the previous knowledge, it is an empty name.

Hence, then, there are names of things *real*, of things *ideal*, and of things *abstract* or metaphysical.

22. In Grammar, it was found useful to borrow from Logic the distinction of names into Names proper, common, and abstract. A proper name is a name immediately applicable

to some one particular real or ideal person or thing; as, *John*, *London*, *Jupiter*, *Lilliput*. A common name is a name that can be immediately applied to a person or thing, with reference, at the same time, to the class or kind of things to which the person or thing belongs, whether real or ideal; as *man*, *fairy*. A name abstract is a name not applicable to a real or ideal person or thing, (except by personification,) but only to a state of knowledge, under which we apprehend something concerning real or ideal persons or things; as *virtue*, *pride*. But a name abstract may become a name common if we make it a name for several states of knowledge, Thus, the name *virtue* may be a common name for the special virtues, *Prudence*, *Justice*, *Temperance*, *Fortitude*; or *Faith*, *Hope*, *Charity*.

23. Language is the instrument of reason by which we collect knowledge, so that it shall be ready for re-application to the things known. In order to serve its purpose, language is very flexible; and the logician, in availing himself of the changeable import of a word, has to notice, 1. Its Etymological sense: 2. Its General sense: 3. And its Particular or Applied senses.

24. The etymological sense of a word is its original sense, so far as we are able to trace it. Thus the original sense of *To prevent* is to go before; the original sense of a *villain*, is one who lives in a vill or small town; the original meaning of a *regiment*, is rule or command, or something ruled, or commanded; the original meaning of the word *thing*, is that concerning which we *think*.

25. The general sense of a word is that which includes under it all more particular or special senses. Sometimes this coincides with the etymological sense; as *regiment* when it means every thing that is ruled or commanded, which sense will include the special object, a body of soldiers commanded by a colonel. The general sense of the word *man*, is that which includes every human being, male and female, in every stage of life. The general meaning of *animal*, is that which includes every organized being that is liable to sensations of pleasure and pain; the general meaning of the word *plant*, is that which includes every organized being that is destitute of sensation. The general meaning of the word *sensation* is that which includes every effect, pleasurable, indifferent, or painful, which reaches the brain of an animal by the operation of an

external cause.* The general meaning of the word *thing* is that which includes every possible subject of our thoughts, real, ideal, and metaphysical; and this general sense coincides with the etymological sense.

26. The special sense† of a word, is some limited application deduced or deducible from its general sense. Thus the name *man* may be specially applied to any human being not a female, nor a boy or infant. Thus the word *animal* is sometimes applied to a brute animal only. Thus the word *regiment* while it had a general meaning, was often specially applied to a body of soldiers commanded by a colonel: which special meaning has now become the common meaning, and the general meaning is now almost forgotten.

27. In the use of signs to advance and fix knowledge, it appears that there may occur abstraction, generalization, and specialization.

28. Abstraction is the separation of knowledge from the thing known. It is the beginning of knowledge, there being no such thing as knowledge till abstraction takes place. And abstraction is carried on by the use of language. The word *John*, may have first meant, *John, an infant, lying in his nurse's lap.* But when we know *John* under other circumstances, our knowledge of him is abstract, that is separate from those circumstances: and not only is *John* the sign of abstraction from the particular circumstances, but every other word which helps to form the description of *John*, is also the sign of abstraction from particular circumstances.

29. Generalization is the process of abstraction by means of a name made common to two individuals, and applied successively to more individuals, till we have included under it all we find useful to include. Thus the word *man* may have first meant a single individual, and then it was a proper name. It may then have been applied indifferently to two individuals by excluding what was peculiar to each. And so it continued to be applied to three, four, five, &c.; till it became a name for any individual of the human kind.

30. Specialization‡ is the opposite of generalization, and

* That is, external as regards the brain.

† In Aristotelian logic, any special sense of a word is called *a second intention.*

‡ J. Stuart Mill is the originator of this useful philosophical term.

properly belongs to deductive logic, because the ordinary way to make a word special, is to join to it words that have that effect. Thus the word *man* is, made partially special, when we say, "a short old *man* in a brown coat."* But a single word is sometimes made to take a special meaning deduced from a meaning more general; as the word *doctor*, whose general and etymological meaning, is, a learned man; but which sometimes means, specially, a man to whom the diploma of a degree bearing that name has been given by a university; and sometimes, in common or vulgar use, one who undertakes to cure diseases, whether he has received a university diploma or not. A general word thus made special, is an instrument of inductive logic, as well as all other single words.

SUGGESTIONS FOR AVOIDING, DURING THE INDUCTIVE PROCESS, THE DELUSIONS OF THE RHETORICAL SOPHIST.

31. Sophistry is an unfair use of art in Rhetoric, in order, for some partial end, "to make the worse appear the better cause." The delusion, indeed, is not always designed, the rhetorician as frequently cheating himself before he sets about misleading others. But this makes no difference as to the likely prejudicial effect; and our learner has to be warned against this effect, while pursuing (what every one pursues, right or wrong, during his life,)—the logical process by which knowledge is stored up for subsequent development.

32. One common means of delusion, and the first we may mention, because it will be the first against which the logician will be warned in his own deductive use of language, is *the use of high-sounding verbiage*. He has already been cautioned on this point, particularly in Sections 11 and 12 preceding; but the caution cannot be too often repeated. It is again urged in this place, because, when a point cannot be otherwise carried, the rhetorician often addresses the ignorance of his hearers, offering them sound for sense,—the empty parade of learned terms for the substance of learning. Even the substance becomes a snare when used to bewilder the understanding of the hearer or reader, and keep him from

* For the single word is not special in meaning; but it merges its single meaning in the logical noun it helps to construct; and the meaning of this logical noun is special.

inquiring after truth in the true direction. Thus the quack makes a parade of medical knowledge, in order that you may take his pill, which has been prepared, he is well aware, quite independently of such knowledge; and thus a rogue, as the novelist shows, displays a single piece of learning, got by rote, whenever he meets with one who is likely to be a new dupe, through the reverence in which we are disposed to hold a learned man.

32. Akin to the means of delusion just mentioned, is *the parade of logical forms*. This indeed is not so practicable a snare since the formal logic of Aristotle has been less in repute; but that it is still used with effect on some occasions will appear from a few examples in the 10th Section of Chapter V. In the mean time, we have to assure *our* scholar, that the *form* in which a piece of reasoning may be couched, is never a security that the reasoning is just, nor a defect in the form an evidence that the reasoning is false. To say that, "All projectors are unfit to be trusted; this man is a projector; therefore he is unfit to be trusted,"—will never convince a sensible thinker, while he admits all habitual projectors to be untrustworthy, that a prudent man who now and then comes forward with a feasible project, is a man unfit to be trusted. And to say, "All wise legislators suit their laws to the genius of their country; Solon did this; therefore he was a wise legislator,"—will not prevent him who reasons by *means* of words, and not *with* words, from *receiving* the reasoning as quite correct, although the Aristotelian *form* of reasoning fails.* Neither when the argument for the existence of a God from its being universally believed, is met by the instance of a nation destitute of such belief, will *our* scholar be more, we think he will be much less, in danger than the Aristotelian of allowing the objector to go further than his objection warrants, by asserting, namely, that because the existence of a God is not universally believed, all argument for the existence of a God is set aside. In any case like this, which demands nothing more than efforts of the natural understanding operating by *means* of words, but not using them in place of thought, to talk to *our* scholar of being on his guard against

* Both examples will be taken up again in Chapter V., (Sections 9 and 10,) and the true character of their faultiness explained.

an illicit process of the major term,* would be to prepare him for being operated upon, when *off* his guard, by such means of delusion as it is the object of this section to characterize.

33.† The next means of rhetorical delusion which may be mentioned, is a means very much in use at the present day, that of appending to *an abstract or general proposition*, every special practical inference which it may suit the views of the reasoner to draw from it. Thus, it having been said, and, in general terms, safely said, that wholesome food is food fit for our species; and a certain article of food having been found wholesome by such and such a people, we are required to act on the general admission, and force its use on a different people. Now the proof that it is wholesome does not reach further than the experimented instances, and our general admission cannot fairly be extended to such an issue. With regard to people who live in another climate, or under any other different circumstances, the proof is yet to come, and till it come, the issue proposed is a practical *non-sequitur;*

* See Whately's Logic, Book III. § 7.

† A great part of what follows in the remaining four sections under the present head, though not literally quoted from, is suggested by the excellent matter contained in Dr. Whately's Chapter or Book on Fallacies (referred to in the previous note). That the author of this Manual has not been able to draw greater benefit from the chapter in question, is caused, as he thinks, by the mischievous interference in it of Aristotelian principles. If Dr. Whately had not predetermined to be more consistent than his fellow Aristotelians, if, like them, he had given up the doctrine of the formal syllogism when he came to treat on fallacies, and spoken of them in the language of common sense, the Chapter, which is now excellent only in parts, would have been excellent as a whole. But Dr. Whately, (unfortunately as the author thinks,) does his utmost to reconcile this part of his logic with what precedes, chiding his brethren for having here renounced their science. "Whenever," he says, "they have to treat of anything that is beyond the mere elements of logic, they totally lay aside all reference to the principles they have been occupied in establishing and explaining, and have recourse to a loose, vague, and popular kind of language." (Introd. Book III.) The effect of Dr. Whately's greater consistency appears to be this,—that in endeavouring to draw a line between logical and non-logical fallacies,—between what can be explained on the principles of Aristotle, and what must be explained according to common sense, he very much mystifies the latter mode of explanation, while he is obliged to draw his intended line in so zig-zag a way, that, for whatever purpose, one cannot help thinking it had better not have been drawn at all.

a case of having *proved too little.** Again; we may allow that every one has a natural claim to be free; but the admission of this in the abstract, does not bind us to join in every special act which it may be cited to justify. Employed in this way, it is an argument that *proves too much;** for with lax unconditional interpretation, it necessitates the freedom of madmen, and of infants or idiots. Again; we may very safely admit that a Representative is one who represents others; but from this general admission, it can never be inferred in what particular manner he is bound to represent them; it may be as their messenger, it may be as their spokesman, it may be as their delegate with special restricted powers, it may be as the member of a legislative assembly. What are his duties in any case or capacity whatever, will evidently be undeterminable by the general signification of the word: to ascertain these duties, we must ask in what way, by prescription, or law, or usage, or power specially held and specially granted, he is required to act.—These three examples may stand for many others that might be given, involving such abstract terms as Socialism, Communism, Equality, Fraternity. We may admit the justness of general definitions drawn from these and similar words; but we are not bound to join in following out the definition into practical consequences when we have no test from experience or custom to warrant our proceedings.

34. Another means of rhetorical delusion, is that of shifting from one sense of a word or a proposition to another, so as to lead the logician, in his inductive progress, to admit the conclusion of the one sense, as the conclusion of the other. This delusion often takes place in thought, without any exterior cause, other than the equivocal character of the word. "Thus," says Dr. Whately, "a young divine perceives the truth of the maxim, that for the lower orders one's language cannot be too *plain*, that is, clear and perspicuous, so as to require no learning nor ingenuity to understand it:—when he proceeds to practice, the word *plain* indistinctly flits before him, as it were, and checks him in the use of ornaments of style, such as metaphor, epithet, antithesis, &c.; which are opposed to *plainness* in a totally different sense of the word."—

* See Chapter V. Sections 11, 12.

Hence, in many instances, "a dry and bald style, which has no advantage in point of perspicuity, and is least of all suited to the taste of the vulgar." (Book III. § 5.)—The next example is also from Dr. Whately, though with different arrangement. In saying, "He who necessarily goes or stays," we may mean—*he who goes of necessity, or stays of necessity*: Or we may mean this alternative, that *he must either go or stay as his will may determine.* Now the person under the former description is evidently not a free agent; but the person under the latter has all the freedom which we can attribute to a free agent. The sophist may, however, so conceal his transition from one of these two meanings to the other, as to get an admission of the doctrine of universal absolute necessity, the doctrine which insists that no man is, in any case, a free agent.

35. A further means of rhetorical delusion is that of making a conclusion which is true of an aggregate, appear to be true of the particulars of the aggregate; or the reverse of this. We need not notice the former mode at present, because it can hardly be practised successfully on one who is not trammelled by the forms of the Aristotelian syllogism, a caution against the false forms of which has already been given above (Section 32); and also because an occasion will occur for exhibiting some examples in Chapter V. (Section 10.) But the reverse of this mode of delusion may be here noticed, namely, that of making a conclusion which is true of the particulars of an aggregate, appear to be true of the aggregate. Now there can hardly be a delusion in so plain a case as the following:—we conclude, or more properly infer, when, in throwing dice, a person casts two sixes now and then, that he does so by what we call chance or good fortune; but if he casts two sixes fifty or a hundred times running, we can hardly be driven or seduced into the same inference, reason guided by experience teaching us, in such case, some very different inference. Yet in cases not dissimilar, a hearer or reader may, by a juggle, be led away from this natural procedure of the understanding. Let our example take the form of a dialogue; only, be it observed, the events supposed in it are prospective, not determined. "Tom, I would advise you to resign your place immediately." "What, in order that you may be promoted to it?" "No, not for that reason, though

I am the next to succeed you; but because of some news I have just learned, that you will be placed in a much better situation, if when it is vacant, you are in a condition to have it offered to you." "How so?" "Why A. B. is so ill that his doctors say he cannot live a month." "And what then?" "Why his office being vacant, will be eligible for you, if, which you know is an established proviso, you are not in place at the time." "But there are others for whom it will also be eligible." "Yes, but they are only a few; and, doubtless, your uncle will, by that time, be returned from America, who has interest sufficient to make your superior qualifications properly understood. With all these *concurrent* probabilities in your favour, I do say you must get this place, if you resign that which would decidedly prevent you from it." Now, if without regard to further considerations, such as the possibly very low value of the one place and very high value of the other, Tom should, on this representation, give up his place, he would be guilty of a practical non-sequitur—of being deluded in a case of *having proved too little*. The sophist speaks of *concurrent* probabilities, as if, in the *aggregate*, they made up a *greater* probability, when the fact is, that the number of the probabilities diminishes the value of each as regards the issue of the aggregate, so that the value of the whole must be calculated inversely to their number.

36. Perhaps the remaining means of rhetorical delusion, may be summed up by saying that they are all carried on with the purpose of keeping out of sight, as much as possible, the particular point or points to which attention is required, for the purpose of reaching the truth that stands opposed to the immediate interests of the sophist. If any accredited book of rhetoric had systematized the particular means of carrying out such a purpose, it would be the business of logic to oppose, for the benefit of its inductive learner, a correspondent arrangement of means to avoid the several snares. But whatever may be the corruption of our nature in *practice*, we are not so lost as to tolerate such a system in *theory*, any more than we tolerate a written art of poisoning or of seduction. As, therefore, there is no system to oppose, there will be very little system in the observations which follow. It cannot be doubted, however, that unscrupulous persons who have partial ends to carry, do find too easily, without express instruc-

tion, the means to their purpose: and it is for us to meet these artifices, if not by instruction directed against each means in detail, yet by general remarks which may indicate their common character, and how they are designed to operate. Now, the ordinary plan of calling off attention from an important *questionable* point, is, to refer to it as a point *not* questioned among the select well-informed class of persons who are presumed to be the leaders of opinion. By this plan, a modest hearer or reader, not included, by his own modesty, in the class, may doubt the extent of his information, so as to suppose that he has not reached the knowledge which persons of that select class enjoy. The plan here spoken of, may be carried out variously. First, for example, the questionable point may be delayed till the end of a long preliminary discourse, a discourse not at all touching the particular point, but dwelling on unquestionable generalities, advanced, all along, on the understanding that they involve the particular point yet to come; which point, when it comes, is stated as a thing of course, that all persons of competent information have already admitted. Or, secondly, the questionable point may be mingled with another, about which there is no question; and the two may be so shifted that at last they seem one, and a conclusion may be insisted on which carries the questionable point, though it truly carries only the other. Or, thirdly, the questionable point may be so put to the hearer or reader in the very form of a question, that if he is seduced to answer it according to the form in which it is proposed, and not according to the form in which the truth requires it to be proposed, namely as being true or false, he must give an answer suitable to the views of the sophist. Or, fourthly, a series of cases may be proposed, as being all the cases to which, respectively, an answer can be given; when there remains another case appertaining to the point at issue, by omitting which, the sophist secures a triumphant answer in favour of what it is his interest to prove. Moreover, any of these methods may receive considerable assistance from the tone or style of the rhetorical reasoner; a tone or style indicating his connection with a high grade of thinkers, and a disparagement of those who, by their way of thinking, prove themselves not to belong to the same high class.—Some examples of these several observations (they

must be hypothetical) may be necessary. Suppose the sophist desires to establish, in the minds of his hearers or readers, the questionable fact that a certain minister of state is corrupt: using the means first indicated, he holds a long preliminary discourse on the baseness of those who, being in places of high political trust, abuse their power to serve their private ends; and exciting in this manner a strong virtuous indignation, without pointing to any person in particular as the object of it, he asks, at last, *not* whether A. B. is a man that deserves this indignation, but assumes that he *is known* to deserve it, except by people who are shut out, by their station, from being acquainted with what is done in high places (not saying so in words, but implying as much by his tone or style); and thus, if his hearers or readers are not on their guard against the delusion, he gains his point, by keeping them from the only inquiry which truth obliges them to institute. Suppose another instance for our first case:—it suits the sophist to fix it as a fact in his hearers' or readers' minds, that a certain root is not a cheap article of food. To all people of common sense, this would appear an affair of mere calculation. Accordingly, the sophist begins with calculations, elaborate and accurate, of the produce per acre of this article of food and of the other, sliding in, somewhere, as a point known and admitted in science, that the root in question contains but a tenth part of the nutritive matter which exists in the substances opposed to it. Now it is evident that all the previous calculations will most likely amount to nothing, unless the last point is clearly established, but instead of establishing it, the reasoner, by such an artifice as this, may contrive to make it pass for granted, and thus his object is gained.—Suppose further, in order to elucidate the second means of sophistry indicated above, that the rhetorician wishes his hearers or readers to admit the necessity of transporting criminals to a foreign colony;—he might mingle this questionable point with one concerning which there is no question, namely that it is necessary to repress crime in the parent country; when, by passing frequently, in a long discourse, from one to the other of these two questions, he might succeed in making them seem one; that is, in making it appear that the *only* way of repressing crime in the parent country, is the transportation of its felons to the infant settle-

ment. Suppose once more, in order to elucidate the third means of sophistry which the previous remarks hint at, that the sophist wishes to establish it as a fact, that A. B. evaded, by a trick, the full payment of his just debts;—instead of setting his hearers or readers to inquire whether such *was* the fact, he may ask whether any one of them recollects the *date* of the fact. Or, in order to elucidate the fourth means of sophistry spoken of above, suppose the fact to be known that A. B. did compromise with his creditors, but the question to remain, whether it was through dishonesty, or imprudence, or unavoidable misfortune,—the sophist may stop his hearers or readers from inquiring into the probability of the last cause, by asking whether it was through dishonesty or imprudence, shutting out, by this only alternative, the thought of any other:—And, lastly, as to the power of a certain tone or style of speaking in eluding a questionable point, we may suppose, for our example, a sincere holder of some religious tenet, to be thrown among unbelievers. A sophist from among these, instead of asking the grounds of the belief which he wishes to undermine, and opposing them by direct argument, may, by speaking of them with banter and contempt as not worth an argument, gain the end which he could not have reached by a direct road.

CHAPTER III.

DEFINITION.

1. Definition is the act of so fixing the limits of a term, that nothing more nor less than it is intended to signify at the time, shall be included in it. It is an art growing out of the use of language, and possible only by having words to operate with, or signs equivalent to words. Its general purpose is, to assist the natural understanding; and this it accomplishes by subjecting all the knowledge acquired by it to one single relation, not permanently to take place of those unnumbered relations under which the things we live among are apprehended, (for this would be not to assist our knowledge—it would be to supplant it,) but that, in the inductive and deductive process, we may stop at convenient stages, and fix, and connect, and arrange, by the one pervading relation, the

whole of what we know, whether for the purpose of going on to increase our stock, or of developing the stock acquired. The art we speak of, is an essential part of formal logic, and a most important part of ours. The formal syllogism,—that which works by extremes and middle term,—would, without it, have been an impossible construction; and with regard to our logic, though it can, in a certain degree or condition, exist without it, and does so exist in the practice of uneducated people, yet, in such condition, it has no claim to rank higher than the many ordinary arts which we learn and practise without express instruction. We therefore willingly accept, from formal logic, this part of its doctrine,—the only part of it which is truly useful.

Theory of Logical Definition.

2. We have seen in the previous chapter, (sect. 25,) that the power of a name to extend its comprehensiveness, has no limits but the want of further things to receive its meaning; and hence we have names, as *thing*, *being*, which include every possible subject of thought.* And if we have names thus comprehensive, the same process which led up to these, will have produced others of less and less degrees of comprehensiveness, till the names are those on which the process has not yet been tried, that is to say, proper names, or the names of individuals. As the process consists in superinducing a relation upon the results of the natural understanding, and therefore is an artificial process, so, though the principle is always the same, there are great differences of detail in applying it. For instance, almost every transcendentalist has his own set of categories, the *summa genera* under which he is led, by the character of his inductive studies, to marshal the developments of his understanding. What these severally are, needs not be stated here: it is sufficient to say that not one of them exactly coincides with the views unfolded in this Manual, which therefore proposes its own categories, namely

* Except *nothing* or *not-being*; a name which, shadowy as it is, still keeps the fact present, that wherever there is knowledge, there must be, under it, the thing known, and the thing by which it is known. Here, the former is denoted by *thing* or *being*; the latter, by *nothing*, *not-being*, or *nonentity*; or, contrarily, we know what *not-being* is, because we know what *being* is.

the distribution of all things which can be the subject of thought into *Things-physical*, and *Things-metaphysical*, the former of these subdividing into *Things-real* and *Things-ideal*. Now, as to things-ideal, since they are the counterparts or the compositions of things-real, we need not pursue them distinctly from things-real, but go on to speak of the subdivisions as equally belonging to both under their general denomination of Things-physical. There is an old division of real things into *matter* and *mind*; a division which, in our days, has been thought sufficient to warrant an inductive system of philosophy built upon the latter, so as to be distinct from the sciences professing to be concerned solely about the former. Whether this is, or is not a sound purpose, requires no discussion here: it is sufficient to assert that though the distinction on which it is founded is a most convenient one for many logical ends, it is one concerning which we can at present *know* nothing (whatever we may believe) further than that man is a being capable of constant progress in knowledge, and raised in this respect above all other creatures perceptible by his senses. We may state this fact by saying he has a *mind*; but in so stating, we do not explain, or get beyond the fact as previously stated.* Transferring, then, both *matter* and *mind*, from the place sometimes assumed for them among things-physical, to

* Be it well observed that what is here said, interferes in no degree with the Bible doctrine of man's immortality, but goes quite along with it, as far as, on human grounds, any doctrine can go. Nay, even the Platonic doctrine of the immortality of the soul, (a doctrine not identical with the Bible doctrine, though not contrary to it, and therefore, by believers, often, perhaps almost always, joined to it,) even that doctrine is not *contradicted* by what is said above, though its claim to *scientific* validity is questioned. Nor, again, do the remarks made above give any countenance to what is called *Materialism*; for if it asserts that *mind* is an abstraction, that is, not a Thing-physical but metaphysical, it asserts the same of *matter*, whose existence as a substratum or common essence of all the things of sense, is, like the other point, quite unsusceptible both of proof and disproof. Matter, as far as we can know anything about it, has its existence only in an arbitrary definition, which comprehends just so many of the things of sense as experience in physical science points out to be expedient. In the meantime what more rational to believe than that man, however assimilated to the things of sense among which he is now placed, is designed for immortality, by having means within reach for regaining the perfection of a nature that evidently struggles to raise itself above them?

what we deem their proper place, namely among things-metaphysical, we come next,—in our progress down toward individual things,—to the domains of acknowledged inductive science; and what shall here be the *summa genera* or heads of classification, depends on the judgement of those who, having experience in those wide domains, are qualified by such experience to guide others. All that logic proposes, is, to direct the *principle* of every classification, not to lay down the classification itself. That principle is easily stated. The *summum genus* or general name of the things about which the science, whatever it may be, is conversant, must be divided into subordinate heads, each of these again into sub-subordinate heads, and so on downwards till our last division brings us to the individual things by which our earliest knowledge was suggested, and for the better comprehension of which, this systematizing principle has been put in operation. The word division, be it here observed, is not, in describing the foregoing operation, used in the same sense as when used in speaking of the division of any natural substance into parts,—as for instance into halves, quarters, or eighths, and so forth,—but it is used to signify what, for common apprehension, we might better signify by the term *distribution;* distribution implying that the whole is spread out, remaining, as a whole, what it was. Our meaning above, then, otherwise stated, is, that the chief head is spread out into subordinate heads, each of these, again, into sub-subordinate heads, and so on till the lowest heads can but be spread out into the individuals of which they consist. Now it matters not what the chief head, or the subordinate heads, or the sub-subordinate heads are called;* we have only to remember that, in logic, the names employed are commonly these: *summum genus* for the chief head; *genus* for each of the heads under it; *subaltern genus* for each of the sub-subordinate heads; and for each of as many more as may be subjected to each of these; till we come to the *proximum genus,* or that next above the *species*, and then under each species we have only individuals.—Be it observed, however, that every subaltern genus is a species with relation to the genus immediately above it,

* As, for instance, instead of the names which follow above, we may use those of *Class, Order, Genus, Species, Variety.*

and therefore every such genus is a proximum genus with relation to such species.—So much for the application of the principle to physical things.—Returning now to things-metaphysical, we have this important observation to make; that as they have their existence only in the understanding, so the enunciation of them in the form of definition, must always, if the enunciation is adequate, be equivalent to the things themselves; as, for instance, the definitions of a point, a line, a circle, &c., in mathematics; the definitions of virtue, vice, pride, "passion, and apathy, and glory, and shame;" and so on with the terms of double abstraction * in whatever other science.

3. Such are the effects, described generally, of superinducing the indicated one relation upon all the knowledge which the natural understanding collects. It is this that renders logical definition possible. Uneducated persons do not define,—they describe; that is to say, when they try to convey their knowledge to others, they refer only to individual things, distinguishing these from each other by every variety of mark through which they differ to the natural understanding. And this indeed is knowledge,—the knowledge enjoyed by our species at large:—and logic in its superinduction of one universal relation to connect and arrange this knowledge, is a most useful minister to knowledge. But when, beyond this, it builds an art of reasoning upon its own arbitrary arrangement, in order to take the place of, or even to explain the natural acts of the understanding, it then becomes, so far as it can attain its purpose, a mischievous innovator instead of a useful minister. We say, *so far as it can attain its purpose;* which purpose fully attained would be, to put words artificially explained in place of thought derived from things,—to reason *with* words instead of *by means of* words. But in fact the Aristotelians never have reached this point in perfecting their art,—fortunately in one respect, but unfortunately in another; since, if it could have been carried fully out, its monstrous pretensions would have been earlier discovered. But the bulk of mankind never have been drawn into the use of their artificial syllogism; and even themselves,—nay, even in illustrating that syllogism,—have in general used informal

* See the previous chapter, sect. 15.

shapes, as suggesting meaning more readily than the strict forms of their own syllogism. Yet with these hindrances to its presumed mischievous effect, the predominance of Aristotelian logic in the schools of Europe during several ages, was accompanied by a sign sufficiently indicative of mischief somewhere, namely by activity in learning without progress and without fruit. Inquiry, during that time, moved only in a circle; and he who left his place of education at twenty years of age, was sure to find, if he visited it at sixty, the same questions going on, which employed him in his youth. When philosophy spread her wing to reach the height she is still seeking, the trammels of the Aristotelian syllogism dropped from her, whether as effect or as cause is immaterial: the fact itself is too notorious to be called in question.

Practical Distinctions and Directions grounded on the foregoing Theory.

4. Definitions are *Nominal* or *Real*. Again, real definitions are *Accidental* or *Essential*. And again, essential definitions are either *Purely-logical* or *Physico-logical*.*

5. A Nominal definition is one that is so only by name, and not in reality. Or it may be otherwise explained by saying that it does but put one name for another, on the supposition that the one substituted is more in use, and consequently better understood. Thus we may define *nonentity* by *nothing*; *innate* by *inborn*; *periphery* by *circumference*; *monologue* by *soliloquy*. In a nominal definition, only one word must be used, or if more than one, it must be such a combination as is understood in the manner of one word: for if we *collect* a meaning from two or more words, then there is a development of knowledge, and the definition is a real one.

* In this arrangement, and in the meaning of some of the terms, I have felt it necessary to deviate from Dr. Whately. He justly points out that Nominal and Real, as he, after others, explains them, furnish a distinct or cross division as regards the division into Accidental, Physical, and Logical; a fact which he complains that his brethren have overlooked,—so as to have introduced confusion and perplexity. I hope I avoid confusion by not making *Nominal* and *Real* a cross division; for I do not use the terms in the same senses as Dr. Whately, although in senses which custom fully warrants. Further, I do not follow him in the unqualified contradistinction of Physical from Logical definitions; my reasons for which may be collected from the foregoing theory.

In defining man, a *human-being*, or explaining To prevent, by the correspondent expression To *go-before*, the two words in each definition would most likely be taken as the syllables of a single word; and if so taken, the definition is a nominal one.* It is also a nominal definition, though the words may be several, which repeats the word to be explained in another grammatical shape; as when we say, Justice is the quality of being just.†

6. A Real definition, that is, a definition in reality,‡ is an explanation developed in some form of two or more words, with the effect that the thing defined is referred to some class, and the difference in some way indicated between it and the other things of its class. If we say *John is always talking of himself*, we declare a fact concerning John, but we do not use any form of definition. If, however, we say *John is a man that is always talking of himself*, we do use a loose form of definition, inasmuch as we refer our subject to his class or kind, *man*,

* The student will bear in mind that whenever the meaning is *collected* out of words put together to suggest it, there is the logical process of premises and a conclusion. (See chapter I.) But in combinations of frequent and familiar occurrence, the logical process has become unnecessary, and of such combinations we receive the meaning at once, as we receive it from single words. The description applies to all the familiar phrases of common speech.

† A subject which is *sui generis* hardly admits other than a nominal definition; as, for instance, Time, or Space. So far as these can be understood by human faculties, every one capable of thought has a full understanding of them: to explain them to one who did not already know what they are, would be impossible. We may say, Time is the measure of duration; Space is the measure of extent: but a clock, and a surveyor's rod, would, with almost as much propriety, come under these definitions; though the one is better called a measurer of time, (chronometer,) and the other a measurer of space, (chorometer.) Perhaps, the nearest approach we can make to a real definition of time, is, "That which exists between, and co-exists with events:"—and of space, "That which is occupied by the tangible things of sense, (or deemed tangible,) and exists where they are not." Kant denies the *objectivity* of time and space, making them parts of the mind itself,—receptacles into which the matter is poured, which the understanding subsequently *forms* into the things of the material universe. We may safely leave this dogma to the fate of German metaphysics in general, contradicting, as it does, a conviction quite as strong as that which attaches to all other things that we deem external.

‡ For, be it observed, *real* is not here used in the restricted sense assigned to it when we oppose it to *ideal*, but in its common and looser sense.

and then indicate the difference between him and men in general. Every form of real definition, strict or loose, has these two parts, namely kind and difference. Thus in defining man *a rational animal*, the latter term *animal* implies the kind or *genus*, and *rational* the difference, which is here called the *specific difference*.

7. An Accidental definition, commonly called a description, is that which explains a thing by its properties or accidents. Now a property is something which uniformly belongs to a subject, but is not so present to the understanding as to be thought at the moment essential, however it may be so. We say, for instance, that it is the property of a triangle, (not its essence,) to have its three angles equal to two right angles, but that it is its essence, (not its property,) to have three sides. An accident differs from a property by being separable from a subject; as for instance, to be right, or obtuse, or acute, is separable from the subject angle, in its general sense; in other words we may say, that to be right, obtuse, or acute, is accidental to an angle generally, though essential to each species. So when we define or describe John as *a man that is always talking of himself*, we describe him by what is accidental to his kind, though essential to John's special character. But we might go on describing him by accidents that are not essential, as for instance, that he lives in such a place, keeps such and such company, and so forth; all of which may form parts in our definition or description, and all belong to what is called an Accidental definition. We have next, however, to observe, that though we can define or describe an individual thing by what are purely accidental to it, as when we describe an individual plant by saying it is *a rose-bush growing at the farther end of the south-wall, and now in full blossom*, yet we cannot so define or describe a kind of thing: we then, in order to form an accidental definition or description, have recourse to the *properties* of the kind: as, for instance, in describing what a plant is, (that is to say, *any* plant, not a particular or individual plant,) we may say that it is *a natural production growing out of the earth from a seed or a root, very various in size, colour, and form, having within it a principle of life, and decaying when that principle is no longer active.* The description might be lengthened to any extent by adding other properties of plants; and the whole would be an accidental definition.

8. An Essential definition is one that limits its subject to that extent, neither more nor less, to which we design to adhere, in our subsequent inductive or deductive process; a purpose which it accomplishes by adding to its proximum genus, its specific (or characteristic) difference. Thus we define a square by calling it an *equilateral rectangle;* where rectangle is the proximum genus, and equilateral the specific difference; and, in a similar manner we define man by calling him *a rational animal.* An Essential definition is either Purely-logical or Physico-logical; purely logical when the subject is metaphysical or transcending nature; physico-logical when the subject is a natural object, or embraces natural objects.* Thus of the two definitions used as examples above, the former is purely logical, the other physico-logical.† It is true that a naturalist might not be satisfied with the definition given of man; but this would be, only because it employs not the mode of limitation which his system requires. He might find it necessary, for his end, to define man, *a mammal having two hands with thumbs opposable to the fingers, and three kinds of teeth, cutting, canine, and grinding.*‡ But the other definition, though formed with a different purpose as regards the future deductive process, is a physico-logical definition as well as the latter. In the latter, the characteristics forming the specific difference, namely *having two hands*, &c., have reference to a different artificial genus, namely *mammal.* Thus various for the different purposes of development, are physico-logical definitions: and if so, it will be readily conceived that those

* We say *subject* when we refer to what exists only in the understanding, namely, the knowledge of what an outward thing is, distinct from the outward thing so understood:—we say *object* when we refer to this outward thing. Hence the distinction into Subjective and Objective, which will occur in some future statements.

† It must be borne in mind that physical things, in our view, include both real and ideal things, and hence the definition of an ideal thing,—for instance, of a phœnix as *a bird fabled so and so*,—is a physico-logical definition.

‡ Genus and difference, if not capable of being respectively signified by a mere grammatical substantive, and mere grammatical adjective, will nevertheless still be so signified by constructed expressions equivalent to those two parts of speech; that is to say, by what, in "Principles of Grammar," are called a logical substantive and a logical adjective. Here, *a-mammal*, is the logical substantive,—what remains of the definition, the logical adjective.

purely logical must be still more subject to the choice or arbitrary determination of the thinker. In forming these, he is under no more than a prudential restraint; as, for instance, the custom of language, which ought to prevent him from defining a word quite apart from its usual meaning. One thing he has always to remember, that whatever limitation he chooses to give to the meaning of a word, to that he should strictly adhere in his subsequent development. Suppose, for instance, that he has defined Pride to be *inordinate self-esteem*,—he could not, under such a definition, justly propose, in any branch of his development, to treat of a proper or decent pride; for the very purpose is contradictory. To accomplish the purpose, his original, or some secondary definition, must assign a less limited meaning to the subject, as, for instance, by calling it self-esteem, simply; and then treating of it under the heads of an improper and a proper self-esteem.

First Note to Chapter III.

It may assist the student to the better understanding and application of what precedes, to quote, however we may have anticipated them, the following rules and cautions from Dr. Whately's Logic: "First, the definition must be *adequate;* that is, neither too extensive nor too narrow for the thing defined: for example, to define fish *an animal that lives in the water*, would be too extensive, because many insects and other creatures live in the water:—to define it *an animal that has an air-bladder*, would be too narrow, because many fish are without any. Or again, if in a definition of money, you should specify its being *made of metal*, that would be too narrow, as excluding the shells used as money in some parts of Africa: if again you should define it as *an article of value given in exchange for something else*, that would be too wide, as it would include things exchanged by barter. And observe, that such a defect in a definition cannot be remedied by making an arbitrary exception: if, for instance, a person were to give such a definition of *capital* as should include *land*, without meaning to have included it, and should then propose to remedy the fault by saying, that capital is *any property of such and such a description* EXCEPT LAND. Secondly, the definition must be in itself plainer than the thing defined, else it would not explain it:—in *itself* plainer, that is, generally; because, to some particular person, the term defined may happen to be even more familiar and better understood, than the language of the definition. And thirdly, (though this rule may be considered as included in the rule just given,) the definition should be couched in a convenient number of appropriate words. Figurative words are opposed to appropriate, and are apt to produce ambiguity or indistinctness: too great brevity may occasion obscurity; and too great prolixity, confusion."—"Tautology, which is a distinct fault from prolixity or verbosity, must also be avoided, that is, tautology which consists in in-

serting too much, not in mere words, but in sense; not so as too much to narrow the definition (in opposition to Rule first,) by excluding some things which belong to the class of the thing defined, but only so as to state something which has been already implied. Thus, to define a parallelogram, *a four-sided figure whose opposite sides are parallel* AND EQUAL, would be tautological; because, though it is true that such a figure, and such alone, is a parallelogram, the equality of the sides is implied in their being parallel, and may be proved from it. Now the insertion of the words *and equal*, leaves, and indeed leads, a reader to suppose that there may be a four-sided figure whose opposite sides are parallel, but *not* equal. Though therefore such a definition asserts nothing false, it leads to a supposition of what is false; and consequently is to be regarded as an incorrect definition." The effect may be further illustrated by the following examples. "If it be laid down that he who breaks into an *empty* house shall receive a certain punishment, it may be inferred that this punishment will not be incurred by breaking into an *inhabited* house:—if it be called a crime for people to violate the property of a *humane* landlord who *lives among them*, it may perhaps be inferred that it is no crime to violate the property of a landlord who is *not* humane, or is an absentee."

Second Note to Chapter III.

Connected with the laws of definition, and indeed involved in them, is the fixing of preliminary conditions, at least in the mind, before we enter on a dispute or discussion. It should be settled, for instance, what is the ground of dispute:—is it a real or verbal question, that is, a question concerning facts, or a question concerning the application of a word? A dispute otherwise interminable, may often be cut short if not adjusted, by the application of this test. Two persons are disputing whether A. B. was a man of genius:—"Are you," it may be said by one of them, "are you agreed with me that he was capable of such and such productions; if so, it is a question about the application of a word, and now let us see in what way custom authorizes the use of the word, and what sense agrees with our present meaning." Or suppose the parties use the word in exactly the same sense; then the dispute turns on facts or the character of the facts; to ascertain which, recourse must be had to inquiry, comparison, and general estimation. Further; the logician should be aware that on many questions which are given out for the express purpose of provoking discussion, a sensible person would express no opinion unless he were permitted to qualify it. Thus, for instance, the often mooted question: *Is a public or private education preferable?* This, as a general question, cannot be rationally answered:—we ought to know exactly what the education is, which, under each denomination, is proposed to be given, as well as the disposition of the person who is to be subjected to it, and his ulterior prospects in life. Thus limited, the question would present itself in a very different shape, and probably leave room for little or no difference of opinion.—*In the wars which closed with the Pacification of Paris in* 1815, *was Great Britain more indebted to her army or her navy?* Such a question in an assembly composed of the two different interests, would probably have produced, some few years ago, a very animated discussion; but it is one which, instead of discussing, it would be wise to

object to altogether, on the ground of its being impossible to be proved; that the operations of each service for which credit would be assumed, did not arise out of, and take their character from, the existence of the rival service:—the question is nearly like such a one as this,—*Is the heart or the head more useful to the rest of the body?* We might indeed reasonably ask, *whether Great Britain should seek to be a great naval, or a great military power?* Such a question would permit a decision on rational grounds; but in proportion as we become rational, we leave less room for contention, and the other question would probably be preferred by those who propose subjects expressly to provoke discussion.—*Is the decline of nations more owing to the misconduct of governments, or the degeneracy of the people?* Here two *separate* causes are assumed, before it has been established that they act separately. We might as well ask, *whether the decline of the bucket into the well is more owing to the rope or the wheel?* It would indeed be reasonable to inquire, *whether wrong principles and practice in government do not produce degeneracy in the people?*—and, *whether degeneracy in the people, does not leave little chance of a good government to reclaim them?* The determination of these inquiries, which would be attended with little or no difference of opinion, would show that there is no rational ground for the alternative proposed in the previous question.—*Is a convulsive revolution, such as we have of late so often witnessed on the continent, mischievous or beneficial to a nation?* A sensible reasoner would affirm neither side of the question, unless permitted to qualify, and then he would affirm both: it is mischievous at the time; it is likely to be beneficial in some uncertain number of years to come. We thus walk aside from the snare, for which, it may be, the question was put. Had the answer affirmed such a revolution to be beneficial, it would have opened the means of rhetorical delusion specified in the last Chapter, (Section 33.) As it is, the answers are quite innocent; the one affirms an experimented fact; the other permits no practical inference; since, though it is true that a man may get a new and a better house by being burned out of an old one, we cannot rationally act upon this fact, and set a house on fire to the imminent danger of the inmates and the neighbourhood whenever a new one is wanted.

CHAPTER IV.

DEDUCTIVE LOGIC.

1. Deductive logic is the art of developing in words, and making special, *for one's own conviction and satisfaction*, the knowledge obtained by the inductive process. It differs from Rhetoric by stopping short at the object stated. Nevertheless, as Logic ought to be exercised so as to prepare for Rhetoric, every development of deductive logic must be considered imperfect, unless, while it convinces and satisfies oneself, it is also fitted to convince and satisfy all, who have the same previous knowledge.

Theory of Deductive Logic.

2. We have seen that, in the inductive process, every act of the understanding includes three things, the thing known, the thing by which it is known, and the knowledge gained. Being gained, the knowledge remains abstract from the things, not indeed ever present to consciousness, but revivable upon occasions that require it, by the presence of real or of ideal things, or by means of a sign audible or visible. But when the knowledge is revived by its proper occasion, it does not always bring with it all the things which suggested it; and we have to develop these things by that conscious effort which we call *thinking*. This is, in other words, to go back to the steps (not exactly, which would scarcely be possible, but virtually, to the steps) which led to our knowledge: and such development is the practice of deductive logic; which development never includes, in strict theory, more than we *already* know. Thus, for instance, we may meet with some instance of kingly magnificence which awes our thoughts, so that we understand, for a moment, such condition of man as something different from the ordinary lot of humanity; but considering afterwards, as a part of our knowledge *already* acquired, that a king is but a man, we shall conclude that kings are not exempted from the lot of other men, but, like them, are mortal. The development of such knowledge may be expressed in words by a single proposition, namely, "Kings, who are but men, are mortal." Or it may be expressed in three propositions, which represent the three things that originally constituted our knowledge: namely, 1. "Every man is mortal: 2. Every king is a man: 3. Therefore, every king is mortal." When we develop our knowledge in this manner, the three propositions are a syllogism. When we develop it in any other way which forces assent from a person possessed of the pre-supposed knowledge, the syllogism is virtually included in the expression; because the three things which the syllogism represents, are included in every act of the understanding. Hence, the syllogism is properly resorted to in all cases of doubt or difficulty, for the purpose of testing the knowledge gained, with relation to the conclusion which it necessarily includes.

Note to Section 2.

Our Syllogism is the *informal* Syllogism, by which is meant the Syllogism that makes no use of the doctrine of comparison between extremes and middle terms, which belong only to the doctrine of the formal syllogism of Aristotle. The syllogism given as our example above, happens to exhibit those terms in the construction of the several propositions; but this is accidental to our syllogism, and not essential or important. In our doctrine, each premise of the syllogism is one expression with one meaning; and, in the instance above, is the statement, in each, of a known truth or fact. But these facts are no sooner stated in connection, than they inevitably suggest the conclusion which is expressed by the third; and the whole of them are now one expression with one meaning. To ask why they are so, or to take in hand a demonstration of what is thus attained, is a question, and a proceeding, as absurd as it would be to ask why a rose is fragrant, and to set about a verbal demonstration that it is so. Accordingly, with men of sense and education, but not so educated as to be trammelled by scholastic logic, the syllogism in actual use, is the informal syllogism; and to this they have recourse, when, in the inductive process, not being quite satisfied with the grounds on which they have come to some *inference*, they *deduce* the process in a syllogism, that so the grounds and the conclusion (inevitable in the deduction) may be clearly set forth, and the defect, if any, may be seen; which fault will always be found in the premises, and never in the conclusion.

But say the Aristotelians,—that is, they who *are* trammelled by scholastic logic,—we find in the practice of reducing all syllogisms to the demonstration of extremes and middle term, a wonderful power in sharpening the intellect. It may be so: riddles, charades, and conundrums have this power also. But is it an exercise which sharpens the intellect for the high practical purposes of life? May not a person acquire great skill in the reduction of reasoning to the Aristotelian formulas, without any benefit, nay even with prejudice, to the natural powers of the understanding exerted for the ends just alluded to? He who makes use of a complicated instrument to effect that which nature has fitted him to do with his naked hand, may possibly fail in using the instrument, though he could not fail in using the natural means. We reserve our proofs of what is here suggested only as possible, to another opportunity. If we shall be able to show that Dr. Whately himself is guilty of a gross fallacy, that of the circle, in endeavouring to establish the claims of the Aristotelian syllogism, the cause of the error must be set down, in him, not to the want of great natural judgement, which Dr. Whately, of all men, cannot be accused of, but to some defect in the employment of his *instrumental* means of coming at his conclusion. (See the next Chapter, Section 9.)

There is an enormous delusion in the doctrine of the Aristotelian syllogism, which may be taken notice of before concluding this note. In this doctrine it is pretended that the reasoning process can be exhibited distinct from the subject-matter of reasoning. What we affirm, (and the affirmation, we presume, carries conviction along with it,) is, that where there is no subject-matter to be understood, there can be nothing under-

stood. When we say—Y is X, but Z is Y—we affirm what is not true, and there is no conclusion: but if proviso is made that Y shall be the same as X, and Z the same as Y, a conclusion follows; and the cause is, that, by the proviso, X, Y, and Z, become real subject-matter.

3. But though, in strict theory, the development of knowledge never can include more than we already know; we cannot, in practice, always distinguish between the inductive and the deductive process. For in *thinking*, that is, in the effort to develop our knowledge, it is the proper course, when we do not find in our previous experience or accredited information, sufficient ground for what we presume we know, to go back to the inductive process, in order to collect the proofs or disproofs of such presumed knowledge. Such proofs are called *External arguments;* and in the practice of deductive logic, they very often occur among the *Internal arguments;* which in strict theory are alone proper to Deductive Logic. Hence the principle of deductive logic, as it is to be practically conducted, may be laid down as follows: It is, to develop our knowledge, by following it into that which is necessarily included in it, but which we do not at once recognize as so included, either from defect of attention, or *because our knowledge is assumed before we have legitimately reached it.*

4. Every single word is, as we have seen, the sign of abstract knowledge, and, if legitimately used, includes all the steps by which the knowledge has been gained, and every step was an act of the understanding, which, as already stated, always implies the co-existence of three things. Now when the knowledge, which we have abstracted to the utmost degree that our faculties can reach, or the words we use can signify, is to be deduced and specially applied, the universal method of logic is this: to join words together which have a separate or abstract meaning, so that each loses its abstract meaning, by each helping the other to suggest a more special meaning, the expression formed by the junction of the words, becoming—the instant they are joined—only one expression for the one more special meaning. This is what we called, joining words together to make sense; and it is presupposed that while they make sense, they shall also make grammar, that is, be accurate forms of construction. Thus, for instance, *red* and *earth*, are respectively signs of abstract knowledge: so likewise are *Time* and *flies:* so like-

wise are *every* and *man*: so likewise are *is* and *mortal*. But *red earth* being joined make sense, and are one expression for one meaning, which meaning is special in comparison with the separate meaning of *red* and the separate meaning of *earth*. The same is to be said of *Time flies* and of *Every man* and of *Is mortal*, when the respective words are joined. And again, with regard to the last two expressions, each of which is now to be esteemed only one logical element or part of speech, the moment we join them together, we find they make sense, and that sense is special in comparison with the separate meaning of *Every man* and the separate meaning of *is mortal*.*

5. The grammatical function of a sign, whether single, or compounded of several that form one expression with one meaning, does not affect the previous statement. It is true that a sign whose form indicates that it is only a *part* of speech, carries, in that form, a warning that we are not to rest in its separate meaning, but to await the junction of another sign for some more special meaning intended. But a sentence completely constructed, though it does not carry the same warning in its form, is nevertheless,—if not the final sentence, but one of a link in the chain of expression by which the thought will at last be developed,—as much a part of speech as any individual word recognized by grammar as a part. The complete logical expression or WORD, is nothing less than the whole of the means used to develop the knowledge which the thinker chooses to unfold at the time; and it may amount to a large discourse, which being completed, is one expression for the knowledge unfolded; of which the

* So, *man*, *horse*, *cards*, *a*, *horseback*, *on*, *of*, are each a single grammatical word, each implying abstract knowledge. Again, *a-man*, *a-horse*, *on-horseback*, *of-cards*, are, respectively, signs of meaning less abstract, that is, of knowledge in a degree more specially developed, the signs being formed of mere grammatical words joined by grammar and by logic. And again, *a-man-on-horseback*, *a-pack-of-cards*, are signs, similarly formed, of meaning still less abstract. The examples, a little improved on those in Aldrich, are given in Whately's Logic (Book II., Ch. 1, § 1) as instances of Simple Apprehension, Incomplex and Complex; distinctions founded, like the Aristotelian doctrine generally, on essentially wrong notions of the way in which language is the exponent of thought. Dr. Whately, as if suspicious of the fact, expresses himself with some caution in his later editions, as compared with the earlier.

several portions are properly deemed parts of speech in Logic, though devoid of forms to imply that they are parts in grammar.

6. But though a sentence may be, in Logic, and commonly is, only a part of speech, yet the difference adverted to, namely, that it does not carry in its form a warning to wait for meaning to come, enables us to rest in its meaning, if we please, although the rest may be temporary. A sentence may therefore be described as an expression that *proposes* or lays before the thinker the development of his knowledge: as "Time flies:" "Every man is mortal:" "A king is but a man." It is therefore called a *proposition*. A grammatical part of speech only begins, or continues, or completes such a proposition, and by its form indicates that it is to be understood as doing no more: for instance, Time—; Man—; Is—; Every man—; Time as it flies—; A king, who is but a man—. These, by their form, are evidently only parts of propositions; that is they are grammatical parts of speech. Among these we may distinguish from the *mere* grammatical parts, such as (though grammatical also) exhibit a development to a certain extent, though not a development in which we rest. Such compounded parts of speech we have been taught, in grammar, ("Grammar on its true basis,") to call *logical* parts of speech.

Distinctions and Directions to assist in the Practice of Deductive Logic; based on the foregoing theory.

7. When we intend to develop our knowledge, we have first to choose the form of expression by which the knowledge to be developed shall be signified. The expression may be a single grammatical noun, or a logical noun, or a proposition. Thus, *Socrates; Man; Pride; Knowledge;* are single grammatical nouns;—*The death of Socrates; The reason of man compared with the instinct of brutes; Pride of birth; Knowledge of the world,* are logical nouns:—*Knowledge is power; Virtue is its own reward; It is Education that forms the mind;* are propositions. Of these, the subjects expressed by single words are the widest, including an indefinite number of subordinate subjects to be expressed by logical nouns, or by propositions. The subjects expressed by logical nouns, or by propositions, are more limited; but are still resolvable into subordinate subjects to be expressed in the same way.

8. When the subject to be developed is expressed by a single word, the first proof that can be given, logically, of the existence of the knowledge presumed to be included under it, (though the proof may not always be required,) is its expansion in what is called a *Definition*. All knowledge consists in being aware of the relations in which the thing known stands to oneself and to other things. Suppose then, a subject to be expressed by a single word, it is almost always possible, as we have seen in the previous chapter, to class the subject with other things; which are therefore said to be of the same *genus* or kind; and then to distinguish it from these things by stating its *difference*. *Genus* and *difference*, as we there saw, form a definition. Each of these may sometimes be expressed by a single word, as in defining Socrates to be a *Greek philosopher*, Man to be a *rational animal*, Pride to be *inordinate self-esteem*. But it may not be possible, and if possible, it may not be sufficient for our object, to begin thus briefly the development we propose; or if we so begin, we may add much more, so that an essential definition becomes an accidental one, or description. Thus, we may carry out our definition of Socrates into all the particulars of his life, till the *difference* between Socrates and others of his *kind*, amounts to a biography of Socrates. Suppose for another instance, that we have to define so common a thing as a chair or a table, it must be done by genus and difference,—by stating what *kind* of thing it is, and how it *differs* from other things of its kind. Thus both chair and table may be called *an article of furniture;* that is their genus: of a chair, the difference is, *so far raised from the ground, and so adapted, as to receive a person in a sitting posture*: of a table, the difference is, *so far raised, &c., and so adapted, by having a flat surface, as to hold readily for the hand whatever may be placed upon it.* Again; suppose we have to define such a subject as Generosity:—we must first seek for a *generic* term, such as sentiment, and then add words to *specialize* the term; as, "Generosity is *the sentiment which takes pleasure in conferring benefits.*" There are wider meanings of the word than this; but this may be all the meaning which the further development is intended to carry out.

9. If the subject to be developed is expressed by several words, as, for instance, *A knowledge of the world*, the general

term knowledge is evidently limited, being in fact thus far developed. Still, as with a subject expressed by a single word, there will remain an indefinite number of points or purposes of development, at the choice of the thinker. But if the subject is given in the shape of a proposition, as, *A proper knowledge of the world is favourable to virtue*, there is then only this one proposition to be established,—in other words, only one purpose of development. Now the means of development are what are called *arguments;* and we have next to inquire what is an argument.

10. An Argument, often called a Reason, is a proposition whose truth being admitted, the truth of the proposition which it is used to establish must also be admitted; as "Kings are mortal, for *they are but men*:" "John lived in London; for *he lived with his uncle*." We say that the truth of the proposition in italic being in each instance admitted, requires us to admit the proposition which precedes, to be true:—but requires whom?—certainly not every one; it requires the admission only from those who, in each instance, have certain further knowledge; namely, as regards the first instance, this further knowledge that *men are mortal;* and as regards the second instance, this further knowledge, that *John's uncle lived in London*. The further knowledge supposed in the first instance is knowledge that every body is presumed to have, and the argument will as widely be received as valid; but the further knowledge supposed in the second instance may be in possession only of a few; only to which few can it be offered as an argument; but for them, it is quite as valid as the argument in the other instance. We see, then, that in the development of knowledge as in the induction, there are three things present at every step or stage of progress, and these three things in the deductive procedure, may be named the *datum*,—commonly unexpressed, but always present in thought,—the *argument*, and the *conclusion*. When these are all expressed in the order here mentioned, they form the syllogism of deductive logic; as, "Men are mortal; Kings are men; therefore, Kings are mortal;" "John's uncle lived in London; John lived with his uncle; therefore, John lived in London."

11. Arguments have technical names derived from three

sources. i. From the *Topics* whence they are taken. ii. From the *Data* to which they are addressed. iii. From the *Forms* of development. Our practical distinctions must be continued by a statement in detail of the divisions and subdivisions under each of these heads.

PRACTICAL DISTINCTIONS CONTINUED: (i.) NAMES OF ARGUMENTS FROM THE TOPICS WHENCE THEY ARE TAKEN.*

1. *External Arguments—Experiment and Testimony.*

12. If the argument or proof which we seek under a general head or topic, is not already a part of our knowledge, such general head or topic will be either EXPERIMENT or TESTIMONY; and the argument will be derived externally. It will not, in this case belong to *deductive* logic, but *inductive*: that is to say, it will be knowledge yet to be sought and made our own, either by actual experience, or by admitting the experience of others in place of actual experience. Now all our knowledge is originally suggested by external things, and therefore differs not, in its beginning, from that belonging to the topics here proposed under the two names *Experiment* and *Testimony*. But the reason for the distinction is this; the arguments sought after under the heads called *internal*, are presumed to be included in the subjects which we undertake to develop; because to understand the term designating the subject, is to have the knowledge which that understanding necessarily includes. Thus, for instance, to understand what is meant by a plant, a mineral, an animal, is to know what is a plant, what is a mineral, what is an animal: to understand what is meant by pride, or by virtue, is to know what constitutes pride, what constitutes virtue. But the knowledge here supposed is ordinary knowledge; not the recondite relations which the scientific experimentalist reaches; relations which, as to a plant, a mineral, an animal, form the physical sciences, Botany, Geology, Zoology; any treatise or development of which, must be founded on proofs called experimental. Thus, again, if knowledge is proposed to be

* The *Data* and *Topics* of arguments are quite as necessary to be considered in Rhetoric, as in Deductive Logic; and they are accordingly exhibited, with appropriate differences of view, in the Manual of Rhetoric.

developed from the proper names *John* or *Socrates*, all we can presume the names to include, is, that there is, or was, a man called John or Socrates:* if more than this is developed, or sought to be developed, it must be, from the peculiar knowledge which the thinker enjoys, the fruit of his peculiar experience, or of the information he derives, as a learned man, from the stores of history. The scientific knowledge thus induced under the term, is not *necessarily* included in it till the induction takes place; and even then, the arguments are fitted to convince only those who have the knowledge, and not the generality of persons, who use and understand the terms no further than in their ordinary sense. Deductive logic is, however, the art of developing in words such knowledge as we have; and therefore if the thinker has the knowledge here assigned to the two heads called external, the knowledge is, to him, internal, and the distinction a name without a difference; though, as a name, it will be useful, when we have to employ logic as a basis for rhetoric.

* Hence Mr. John S. Mill denominates a proper name a *non-connotative* word. Connotative, according to him, is that which notes something, and, along with it, something more, or, in addition. Thus the word *man* is connotative; for while it notes any one man, it notes his kind, or all that constitutes him a man. Thus again the word *white* is connotative; for while it notes the quality, white, in any one thing, it notes or implies it in all other white things. On the other hand, *John* and *whiteness* are said to be non-connotative; and we may perhaps exemplify the reason given for this by saying, that they are words incapable of being used in predication otherwise than specially: we cannot say, for instance, "This man is John" by virtue of any general knowledge included in the word, but only by virtue of our special accidental knowledge that such is his name: neither can we say of anything, except of whiteness itself, that "It is whiteness;" for the word whiteness is so grammatically conditioned as to be *immediately* applicable only to our knowledge of what whiteness is, and *not immediately* to the white things from which that knowledge has been derived.—In thus explaining the distinction sought to be enforced by the term non-connotative, we wish it to be seen that it arises entirely out of the Aristotelian doctrine of predication: and its utility or inutility must be estimated by the utility or inutility of that doctrine. Whether, with just views of the relation which language bears to thought, *John* and *whiteness* are not connotative, as well as *man* and *white*, we leave *our* student to inquire.

2. *Internal Arguments—Definition, Etymology, Enumeration, (not Induction,) Genus and Species, Cause, namely, Efficient or A-priori, and Final or A-priori, Effect or A-posteriori; Antecedents, Consequents, Adjuncts;* Comparison, *namely, Similitude, Analogy or Parity of case, Contraries, Proportion, and A-fortiori.*

13. When, having laid down some point or purpose of development, we go on to argue the truth of what we assert by appealing to the nature of our subject, as it is, or as it might be exhibited in a definition, we are said to reason from DEFINITION. If, for instance, we desire to develop the knowledge contained in the proposition, Man is accountable for his actions,—the argument may be, that he is a creature endowed with reason and liberty; which is a definition of man's nature. This is an argument by virtue of the datum, that every creature endowed with reason and liberty is accountable for his actions; and both being admitted as a part of our previous knowledge, the conclusion is inevitable. Or if we desire to place the truth evidently before us in words, that certain lines are equal to one another, the argument may be, that they are radii of the same circle. This is an argument by virtue of the datum, that the radii of the same circle are always equal; and both being admitted as belonging to our previous knowledge, the conclusion is again inevitable.

14. When we develop our knowledge from the original sense of the word that stands for our knowledge, we are said to reason from ETYMOLOGY. If, for instance, we desire to develop the knowledge, That the idle have no relaxation,—the argument may be, that the word relaxation originally signifies, the loosening of what is tight. Borrowing from another topic hereafter mentioned, namely, Analogy or Parity of case, we add to the argument from Etymology, the further argument, That as the idle never apply, or draw their faculties *tight*, so they can never be said to relax their faculties. The former is an argument by virtue of the datum, that the idle do not loosen what is Tight; and the latter an argument by virtue of the datum, that Not to draw the faculties tight and not to apply them, are expressions that mean the same thing. All this being admitted as a part of previous knowledge, the conclusion is inevitable.

15. When we develop the knowledge we entertain under a general term, or a general proposition, by detailing the particulars which constitute our knowledge, we are said to reason from ENUMERATION. Thus, for instance, we develop our knowledge of what a dozen means, or a score, by counting up to a dozen, or a score inclusively. This is an argument by virtue of the datum that the number so counted is a dozen, or a score; and the conclusion follows inevitably. Thus, again, if we wish to develop the knowledge contained in the proposition, A fine art always addresses, as its appropriate object, our imaginative sensibility, through the sense of hearing or of sight; our first argument may be an enumeration of the fine arts, namely, Poetry, Music, Painting, Sculpture, accompanied, in each instance, by the more special proposition that Poetry addresses, as its appropriate object, our imaginative sensibility, through the sense of hearing; Music addresses, &c., through the sense of hearing; Painting addresses, &c., through the sense of sight; Sculpture addresses, &c., through the sense of sight. This enumeration is an argument by virtue of the datum, that Poetry, Music, Painting, Sculpture are all the fine arts; and both being admitted as a part of our previous knowledge, the conclusion is inevitable. Thus, again, if we wish to develop our knowledge, that a heavy body lifted from the earth, has always fallen to the earth again when the sustaining power was removed, our argument may be, the enumeration of A, B, C, D, &c., which in our own experience or that of others, has, in each instance, fallen to the earth under the circumstances stated. This again, is an argument by virtue of the datum, that A, B, C, D, &c., are all the things, or represent all the things, on which the experiment has been tried; and both being admitted as a part of our previous knowledge, again the conclusion is inevitable.

The argument from Enumeration is sometimes confounded with the argument from *Induction*; but Induction as we have seen, is not an internal argument; and the conclusion it suggests is not included in the premises, and therefore is not a *necessary* conclusion but an inference, although we do not the less receive it as true. Thus, for instance, having to ascertain whether it is a truth or general law, that every heavy body being lifted from the earth, will fall again to it if every

intervening thing be removed, we have recourse to experiment; and the experiment answering our expectation, we then infer that as A, B, C, D, &c., *have fallen* again to the earth after having been lifted from it, so all bodies whatever *will fall* to earth under the same circumstances, in other words, that this is a general property of bodies near the earth's surface. Now, the inference here is not included in the premises; the necessary conclusion from which, is, that A *has* fallen, that B *has* fallen, &c., not that Z, Y, X, &c., *will* fall. And this sort of conclusion is called the Inference of Physics.

Yet the difference between the argument from Enumeration and Induction is done away with, by conceding the knowledge, a knowledge which all people must acquire,*— that

* But why must they acquire it? The philosophers of the Scottish school here come in with what they call a fundamental principle of belief. I am glad to avail myself of the objections to that dogma, which one of their number, Mr. James Douglas of Cavers, thus urges: "That Reid, Stewart, and Turgot, have been mistaken, in proposing such an *original* law of thought, as a belief in the continuance of the laws of nature, will easily appear. That can never be an original proposition which consists of slowly acquired terms. Had we an innate idea of nature, of laws, or of permanence, then we might have such an ultimate and instinctive principle: but since the notion of nature is very gradually acquired, and since the term laws is metaphorical, the absurdity of our forming a conclusion while we are yet unfurnished with the premises, will be abundantly apparent. Should it be said that this law of thought remains dormant till we become acquainted with the meaning of nature and of laws, though this supposition is sufficiently absurd in itself, it may be further observed, that our belief of this permanence of the laws of nature, is certain and uniform: but no certain conclusion can be attached to variable terms, such as the very complex and fluctuating notions of nature and her laws. Unless we had within us a model of what nature is, and what her laws are, and also whether continuance is to be understood in an absolute, or in a qualified sense, it would be impossible to arrive with any certainty at the conclusion, which is thus made the foundation of our belief, and of reasoning. The truth is, here is a confusion between acquiescence and belief. To acquiesce in the regularity of nature, is one of our earliest habits, but to believe in the permanence of the laws of nature, is one of the ripest acts of the understanding. The process from childhood does not seem to be well understood—the child receives all things, according to the philosophic expression of Wordsworth, in "a wise passiveness." It has no doubts, and therefore can have no belief. The permanence of the laws of nature mould the thoughts of the child to their own continual recurrence: what is still more, the structure of his own frame corresponds and fits in with the laws of external nature. Not only are all his thoughts moulded, for example, to the succession of day and night, but the structure both of his

where an experiment never has failed, it never will fail.) The *datum* will then be, As A, B, C, D, &c., have fallen to the earth after being lifted from it, so Z, Y, X, &c., will fall under the same circumstance: the argument will be as before that A, B, C, D, &c., have fallen: from which argument the conclusion by virtue of the datum, That Z, Y, X, &c., *will* fall; now follows, as necessary and inevitable, because the premises now include it.

16. When we develop our knowledge by going back to knowledge that includes it, instead of using an argument that comes immediately under the knowledge we purpose to develop, we are said to reason from the GENUS. Thus if, in order to develop our knowledge, that man will be punished or rewarded, for which our special argument might be, that he is accountable for his actions; we choose to use the more general argument, Every creature endowed with reason and liberty is accountable for his actions; we shall properly be said to reason from the *genus*: since, *every creature* endowed with reason and liberty, includes the *species*, man. So again, if we wish to develop our knowledge, that a devotion to poetry quickens the imaginative sensibility, we may take our argument from the general definition of the fine arts instead of the definition of poetry in particular, and the argument will then be from the genus instead of the species, although it will also be taken from the definition or nature of the fine arts.

body and mind fit him for the alternate change of light and darkness, of activity and repose. The moment that any doubt should occur to him,—which can only be after his reason is exercised, and his thoughts have taken a free range,—that moment they would be repelled by a principle already familiar to him, not indeed in words, but implied in our earliest reasonings, the principle to which Leibnitz has given the name of sufficient reason. This is not an original principle itself, but is merely the logical form of that original principle which we have already pointed out, that every change refers to a cause. Where no adequate cause has operated, no change can have taken place. The course of nature must continue, till the power which gave it that course changes its direction. There can therefore be no reasonable doubt as to the permanence of the laws of nature, except in those cases where the interposition of God can be reasonably expected. Thus, then, we need not multiply original principles without necessity, but may rest our belief in the continuance of the laws of nature upon that fundamental belief that every event has a cause."—*The Philosophy of the Mind: by James Douglas, Esq., of Cavers.* 1839. page 226, *et seq.*

An argument from the SPECIES would of course be from the definition of poetry in particular; but such argument would be more eligibly assigned to the topic definition, leaving to the topic *species* only what is otherwise called *example* or *instance*. Thus, if we sought to develop our knowledge that Industry is the source of all the blessings of life, we might give as an instance of one of these blessings, the improvement of the mind by study; which is an argument by virtue of the implied datum, that this is but one of similar instances, which instances, if completed, would form the argument called *Enumeration*; and that this instance may be rationally accepted in place of all.

17. When we develop our knowledge, by so much of the nature or *definition* of the thing known, as accounts for certain effects, we are said to reason from the CAUSE. Thus, in order to develop our knowledge that Pride is odious, we may use for our argument, the proposition, that it offends the self-love of others. This is an argument by virtue of the datum, that every thing which offends the self-love of others, is odious. Again; if we wish to develop our knowledge, that wine largely and frequently drunk, is a poison, we may use for our argument, that it tends to destroy the constitution; which is an argument by virtue of the datum that every thing which tends to destroy the constitution is a poison.—But note, that in *deductive* logic, nothing can be called a cause which is not already admitted to be one. The discovery of natural causes is the business of the physical sciences, and the conclusion belonging to them is *Inference*; a conclusion which is never included in the premises, and is therefore never a *necessary* conclusion: it is always a conclusion which may be set aside by subsequent experiment. Thus, for instance, we may conclude from the fact, that a man has died after having eaten of a certain herb, that it is a poison: this is an inference. But if, subsequently, we find that thousands of people have eaten of the same herb with no ill effect, we are obliged to renounce that inference, and infer that the herb is not a poison. In neither case, is the inference a conclusion belonging to deductive logic, but an inference of physics, and assignable to inductive learning.—The examples given above are examples of what is called *Efficient* cause. From this we have to distinguish what is called *Final* cause. A final cause

is, in other words, the motive, end, or purpose, on account of which something has existence: thus when a man dies by *poison*, and by his *own act*, these are the efficient causes of his death: the final cause, may be to escape from the tortures of the rack, or the agonies of insanity, or despair.

18. When we develop our knowledge by so much of the nature or *definition* of the thing known, as may make its nature evident in what it produces, we are said to reason from the EFFECT or effects. Thus, in order to develop our knowledge that Pride is odious, we may use for our argument the proposition, that all persons shun the society of the proud. This is an argument by virtue of the datum that a quality must be odious which makes all persons shun any one who has it. Thus, again, we may develop our knowledge of a diseased constitution in a person who drinks wine largely and frequently, by affirming that the disease is the effect of such practice; which is an argument by virtue of the datum that the disease uniformly follows the practice, and that whenever there is this uniformity of sequence, that which precedes is the cause, and that which follows is the effect. But note, that in *deductive* logic, nothing can be called an effect which is not already admitted to be an effect with reference to a correlative cause. The discovery of natural effects is the business of the physical sciences, and the conclusion belonging to them is inference. If, for instance, in any particular case, there is room to suspect that disease in a man who drinks largely and frequently of wine, is not the effect of that practice, the suspicion must be admitted so far as to warrant the search after the proper correlative cause; but the certainty or uncertainty of the inference resulting from such search, has nothing to do with the certainty of the deductive conclusion; for this being contained in its premises, is always a *necessary* conclusion. Yet it is to be remembered that the premises will be faulty, if they state as a certainty what the inductive inference only makes probable.

19. The phrases A-PRIORI, and, A-POSTERIORI, often occur as terms belonging to logic; implying the same things as argument from Cause, and argument from Effect: but their use instead of these terms requires explanation. Among the ancients, there prevailed an opinion that all knowledge flowed from certain original truths implanted in the mind,

and that every special truth was but a deduction from these original truths. But if, as modern philosophy teaches, all the knowledge we can reach, is the result of experience, while we admit that the faculties of our race are such as to be affected by the same experience in the same way, it follows, notwithstanding this admission, that, taking the expression absolutely, there is no such thing as *a-priori* knowledge. But taking the expression relatively, that is, assuming certain knowledge to be inevitable where there is the capacity for it, and also the ordinary occasions of suggestion or of learning, then all reasoning which is deductive will be *a-priori* reasoning, and all inductive reasoning will be *a-posteriori* or from facts, that is from new facts. We may hence define *a-priori* reasoning to be that which proceeds from truths already known, and merely deduces the special truths included in them; while *a-posteriori* reasoning is that which infers general truths from particular truths, which particular truths do *not necessarily* constitute them, but are admitted to be quite sufficient to establish them as science, from which we are entitled to reason deductively, that is, on the *a-priori* principle. Thus, we conclude *a-priori* or beforehand, that a man will die as the effect of having drunk a mortal poison without an antidote: thus, again, we conclude *a-priori*, that pride will render a person odious to all who are made to feel its effects; and thus, again, we conclude, *a-priori*, that lines which we propose to make radii of the same circle will be equal to one another. But in every instance, (and it is the same in all instances,) the *a-priori* knowledge has been obtained *a-posteriori*: thus, we know that the man will die because previous effects had led us to infer the drug as a cause; thus we know that pride will make a person odious, because we have inferred that sentiment as the cause, in a variety of observed effects; and thus we know that lines which are radii of the same circle, are equal to one another, because experience has made us aware that in knowing what a circle is, the equality of its radii is included in our knowledge.*

* This point is in discussion. The old philosophers would have insisted that the knowledge of the properties of a circle, is original knowledge in man. Dr. Whewell, following the German transcendentalists, considers it to be an *explicated idea*, which indeed seems to come to the same thing. Dugald Stewart considers the definitions of geometry to be hypotheses. As to myself, I may seem, in an opinion I expressed many

20. The word *cause* means a permanent antecedent, or what we have found, by experience, to have a certain consequent, or certain consequents, and which we hence call an effect, or effects. But there are antecedents on which we cannot yet rely, so as to call them, with certainty, the *causes* of the consequents: and when we use such antecedents as arguments in order to infer the consequents, we are said to reason from the ANTECEDENTS. Thus, when a man has died after taking a certain drug which was not previously known to be poisonous, but which we now call so, we may be said to reason from the antecedent. This, however, is an inductive argument, and not deductive. In making it deductive, we assume a datum which logically necessitates its conclusion without diminishing the doubt accompanying the inference; as, When, after taking a drug, a person soon dies, it is *very probable* that the drug has killed him: This person took, &c., and soon after died: therefore it is *very probable* that his death was caused by the drug.

21. The word *effect* means a permanent consequent, or what we have found by experience always follow an antecedent. But there are consequents on which we cannot yet rely, so as to call them, with certainty, effects; and when we use such consequents as arguments in the development of our knowledge in order to infer the antecedents, we are said to reason from the CONSEQUENTS. Thus, when a man has died, and exhibits certain marks usual in people who have swallowed poison, we infer that he died through poison. But this is an inductive argument: the marks may proceed from other causes: and in transferring it to the deductive syllo-

years ago, almost to have anticipated Dr. Whewell's. In my Outline of Sematology (Beginnings of a New School, &c., First Essay, foot-note 150) I ask whether the definitions in geometry are not expressed "notions (knowledge) of and belonging to quantity, which, by the condition of the mind, we must reach, if setting aside the sensible instances of a line, a circle, &c., we try to conceive them perfect." This mode of explaining what I meant, I now perceive to be defective. How conceive them, an idealist will say, nature not certainly furnishing the patterns, unless the ideas were already in the mind? But I had no intention to describe them as ideas, that is conceptions. I meant and mean to say, that the definition of a line, &c., is nothing more than the statement of our knowledge what a straight line, &c., is; and how we get this knowledge independently of any idea of the thing, I have elsewhere shown: See Chap. II. Note to Section 10, page 112; "But, say the Idealists," &c.

gism, we must take care to assume, in the datum, no greater certainty of knowledge than we have reached in the inductive process.

22. When we develop our knowledge by entering on details which are not *necessarily*, or, as the ancient logicians consider, *essentially* included in the name of the thing known, we are said to reason from the ADJUNCTS or *Accidents* of our subject. Thus we may develop our knowledge of *John*, by all that constitutes the history of John. The name *John* itself is nothing more than the proper name of one of our species, and it does not necessarily or essentially include more knowledge than that John is a male of our species. All beyond this we may call the adjuncts or accidents of John. These adjuncts or accidents are nevertheless essential to the individuality of John when they have occurred; and all we can truly say of them, is, that they do not belong to the individuality of any other person.

Essence, in the doctrine of the ancient logicians, is that which makes a thing what it is. Thus *rationality* is the essence of man: and yet an idiot is not rational, though we still count him a man. An accident is that which belongs to some individual thing of the kind, but not to others.* If we are praising the pleasures of a country life generally, we may dwell on the sublimities of mountain scenery, or on the sweetness of shady groves: but every country has not mountains; and shady groves are pleasant only where the sun is scorching and oppressive. These, therefore, are adjuncts or accidents, and are non-essentials. Some accidents have been called *properties*: it is, for instance, the property of man to become gray: but this is a property belonging to man in old age, and not always even then. Again, it is a property of man to be capable of laughing. It may be doubted whether this is a property, or essential to the nature of man; but the discussion involves a point of no moment. Provided we understand the meaning of the words as they have been, and as they are still liable to be used, the theory of Logic on a true foundation requires no other statement than this,—that whatever we already know, is necessarily included in the development of our knowledge, and that what we do not yet know,

* Compare Chapter III., Section 7, page 136.

must be reached by observation and experiment, the conclusions from which are not necessary, or included in the facts observed, but are properly called Inferences.

23. In developing our knowledge, we are often said to take our arguments from *Comparison*. Now, all knowledge consists in being aware of relations; and to take an argument from comparison is therefore to take it from the store of all arguments. But a subject already known, may be better understood by seeking and using comparisons that are not a part of our knowledge at the moment of seeking them. Thus, we can feel or understand more vividly, the previously known fact, that novels of a certain kind are injurious, by comparing them to poison. The things known are not of the same nature, and the effects are in the one case moral, in the other physical: still there is the relation of similitude which renders the knowledge of the mischief done by novels more vivid. This topic, namely, SIMILITUDE, is the source of all metaphor in language: as may be exemplified by the previous instance, which appears no more than an ordinary metaphor when we say "Some novels poison the mind;" although, if expressed at full, there would be the same things which every act of knowledge includes, namely, the thing known; the thing by which it is known, or better known; and the knowledge itself. Thus, again, if we wish to understand more clearly the already acknowledged truth, that "The indolent cannot obtain the favour of heaven," we may compare indolent people with idle servants, and Heaven with the master: this, as the things compared are deemed to be of the same kind or nature, cannot so well be called an argument from Similitude, but is more appropriately described as an argument from ANALOGY or PARITY OF CASE. Further, in reasoning from the comparison of things agreeing in kind, we may take those that are known to be directly opposite in their qualities and effects. Thus in order to increase the vividness of our conviction that "Vice is the source of disquiet, that it leads to infamy here, and punishment hereafter,"—we may place these truths, already admitted, by the side of the opposite truths, and say that "As Virtue promotes peace, attracts honour and reputation, and paves a road to eternal bliss," so Vice, &c., which is called an argument from CONTRARIES. Still further; it is possible, in comparing things of the same kind, to take

neither those that have exactly parallel or analogous effects, nor those that have opposite effects, but things that have the same effects so far as they approach perfect identity. Thus if we desire to illustrate the admitted truth that "The wicked are always more or less miserable," we may place it by the side of another admitted truth, that "The entirely wicked are entirely miserable, and other wicked people less so, only in proportion as they are less wicked." And this may be called an argument from PROPORTION. And fifthly, there is a special way of arguing from comparison, when, in order to illustrate an admitted truth, we place it by the side of one of the same kind, which, though acknowledged as a truth, makes its way to the understanding with more difficulty. Thus to understand with greater force the truth that "A man ought to be forgiving to his *friends*," we may place it by the side of another truth, which is admitted, though less liable to be so, and say that "A man ought to forgive even his *enemies*; much more then ought he, &c." And this is called the argument A-FORTIORI, or from a *bolder* assertion in proof of one less bold, that is, less difficult of admission.

24. It is chiefly in these special ways of reasoning from comparison that the phrases CÆTERIS PARIBUS, and MUTATIS MUTANDIS occur. The meaning of the former is, *Other things being equal*; of the latter, *Those things being changed which the difference in the persons or things compared may require to be changed.* Thus we may have occasion to say, "This measure was successful then, and, *cæteris paribus*, will succeed now." "This course and method of study will benefit boys, and, *mutatis mutandis*, may be adopted for girls."

PRACTICAL DISTINCTIONS CONTINUED: ii. NAMES OF ARGUMENTS FROM THE DATA ON WHICH THEY REST.

25. In every act of the reasoning power there are three things: the thing known; that by which it is known; and the knowledge itself, abstracted from the things that suggested it. In the deductive process of logic, the former two things are likewise abstract knowledge; and we may call the one the *datum*, the other, the *argument*, or reason. It is sometimes quite immaterial to which we apply the one or the other of these two names: for instance, when we say, "Three feet are

one yard; thirty-six inches are three feet; therefore thirty-six inches are one yard:" here we may indifferently call the first or the second proposition the *datum* or the *argument;* out of which the third proposition arises as the *conclusion.* The two former propositions are called the *premises.* For the most part, however, the premises out of which a conclusion arises, will, in the deductive process, consist, first of a general proposition which includes many particulars; and secondly of one of those included particulars: the term *datum* will then be properly applied to the general proposition; and the term *argument* to the one included in it: and the argument may, under such circumstances, take its name from the nature of the knowledge which is presupposed or assumed in putting it forth as an argument. It is to be observed, that the doctrine here held seems to belong only to the process of reasoning with other minds, and therefore to Rhetoric, and not to Logic. Yet, even in thinking within oneself, a person may proceed from knowledge more or less deeply founded; and the distinctions laid down under the head which is placed above, are, on this account, claimed for Logic, although they will be properly repeated when we have to consider the practice of Rhetoric.

26. When we develop our knowledge by an argument which is included in such general knowledge as all mankind possess, the argument is said to be ARGUMENTUM AD JUDICIUM, that is, an argument to [ordinary] judgement,—an argument which all people of common sense and ordinary information must admit, as well as oneself. And this is the ground of almost every argument; to which every particular ground—every one, for instance, which is described and exemplified in the six following sections (27, 28, 29, 30, 31, 32), is an exception.

27. When a person develops knowledge in which others have no share, the arguments are fitted to convince himself alone. For instance, if I know, and no one else knows, that "John lived with his uncle," the fact which may be known to many people that "John's uncle always lived in London," is an argument with me that "John lived in London;" but can be no argument with those who have no share with me in the knowledge implied by the first proposition. An argument thus peculiarly founded, is the type of that kind, which

in Rhetoric is called ARGUMENTUM AD HOMINEM, that is, an argument addressed to the knowledge, the principles, or persuasion, entertained by the one man in particular whom they are intended to convince; the difference being *that* which holds universally between Logic and Rhetoric, namely that, in the former, the reasoning is confined to oneself, and the peculiar knowledge is one's own; while, in the latter, the reasoning is applied to convince another, and the peculiar knowledge or persuasion belongs to that other person.

28. When the knowledge we develop is a particular department of learning or science, the arguments are fitted to convince all who are instructed in that part of learning or science, but not to convince people of common or ordinary information. Thus if I know the distance between myself and a certain column to be two hundred feet, and that the angle formed by the lines reaching from my feet to the base and to the top of the column is an angle of forty-five degrees, I shall conclude that the column is two hundred feet high: but this will be a conclusion only to my mind, and to others instructed in the science on which the reasoning proceeds. An argument thus founded is called ARGUMENTUM AD DOCTRINAM, that is, an argument addressed to or derived from some particular part of learning.

29. When we develop knowledge which rests for its truth on the reverence entertained for its source, each included argument takes the name, ARGUMENTUM AD VERECUNDIAM, that is, an argument derived from, or addressed to, the sentiment of reverence or respect. Thus, for instance, if I believe all to be true which a certain respected friend solemnly avers, I shall believe every particular to be true which makes a part of the whole; and the conclusion will be, that since the whole is true, the particular is true.

30. When we develop knowledge which rests for its truth on the religious faith we embrace, each included argument takes the name ARGUMENTUM AD FIDEM, that is, an argument derived from, or addressed to, the religious faith of the person or persons embracing such faith. Thus, with regard to persons who admit the Bible to be the inspired word of God, every particular included in the Bible is admitted to be a part of that revelation, and consequently admitted to be true.

31. In Rhetoric, it is possible to address inferior motives of action, and to keep back, in order to gain some temporary end, the truth as it exists in the mind of the artful reasoner. In Logic, it is not possible so to deceive oneself; but there are ways, nevertheless, by which, even in one's own thoughts, one may wilfully go astray. A person may choose, for instance, to remain in a state of ignorance on a certain subject, when the ways to inform himself are open. Whatever conclusion he may reach while in this state, will be a conclusion derived from ignorance, and the process,—with such difference as the difference between Logic and Rhetoric creates,—will correspond to what, in the latter, is called, ARGUMENTUM AD IGNORANTIAM. Such, for example, will be the process with a thinker, who, having imbibed the opinion that all people that belong to a sect in religion different from his own, are bad people, concludes that A. B., one of these people, is a bad man; which may or may not be true in point of fact, but is not made true by an argument thus derived.

32. Again, it is not only possible, but is the great error of our lives, to be led away from truth in our own thoughts by the allurement or the violence of our passions. In every case of this kind, there are two sets of *data*, the one set abstract, or free from our passions, the other set derived from, or suggested by them. Thus, for instance, the murderer knows that the act he is about to commit, is a crime, but there is some good suggested by his passions, which, in the blindness they create at the moment, seems to outweigh the good he leaves behind; and the conclusion which he reaches, urges him to the deed. Such a case corresponds to the process which, in Rhetoric, is called ARGUMENTUM AD PASSIONES.

PRACTICAL DISTINCTIONS CONTINUED: iii. NAMES OF ARGUMENTS FROM THE FORM IN WHICH THE REASONING IS EXPRESSED.

33. The forms of language are changeable at pleasure, while the reasoning process which gives occasion to the particular form that includes the result, remains, or may remain, precisely the same. Every single word is the fit expression of intellectual acts, not perhaps ascertainable as to all the steps after the knowledge indicated by it has been attained;

but however many those steps may have been, each step in the progress to the result which the word expresses, comprehended three things,—the thing known, the thing by which it was known, and the knowledge itself abstracted from both. Thus the word *man* cannot express the knowledge we have under that word, unless there is first apprehended a creature distinct from other creatures, as, for instance, a creature like oneself, yet not oneself, and in most respects unlike other creatures. Such, or something like it, is the knowledge we include under the name; which knowledge involves the three things stated, the thing known, the thing or things by which it is known, and the knowledge itself. When, afterwards, our knowledge under the same word becomes mature through the force of instruction or of observation, and we understand man as a rational animal, there are still the three things already referred to; for we understand him to be rational because we understand other animals to be irrational, and our knowledge, included under, and abstracted by the word, is the result. We may, if we like, develop the knowledge which this word thus includes, in such a form as the following: "Every creature on earth that is not irrational is man; the creature now under notice or knowledge, is not irrational: therefore the creature now under notice is *man*." These three propositions, the moment they are recognised in their connection with each other, are one expression with one meaning; and the word *man* includes the whole of that meaning; but the word *man* is, in form, a grammatical noun-substantive: the three propositions are, in form, what, in logic, is called a syllogism. Now in this way may every result of the understanding, if not already expressed in the form of a syllogism, be expanded or reduced into that form; and this form, since it represents the three things included in every act of the intellect, is commonly assumed to be the fundamental form, to which every other form is referrible, when we desire to examine its soundness.

34. But the syllogism is a fundamental form, only because it represents, in three distinct propositions, every natural act of the understanding. It has no other merit. Its claim to be demonstrative, that is, to exhibit a *necessary* conclusion, rests on the fact, that the first two propositions, which are called the *Premises*, contain the conclusion. If the premises

are denied, we must go back to another syllogism, and perhaps to another; and if we thus fairly go back to the beginning of our knowledge, that beginning will always be an *induction*, that is, knowledge growing out of two things which do not include the knowledge, but spring from the natural capacity of the intellect, operated upon by the things of sense. A phrase constructed of two words, may represent the syllogism as thus described,—namely the syllogism whose premises contain the conclusion as well as the syllogism whose premises infer it. For example, the phrase, *Reasoning man*, exhibits premises containing the conclusion which the phrase expresses; for he who knows what the word *reasoning* means, must know that it includes *man;* again he who knows what the word *man* means, must know that it includes the power of reasoning which is essential in man. The whole phrase, then, which is one expression with one meaning, exhibits a necessary conclusion out of the premises indicated by the words which form the phrase. This is an example of a phrase representing the syllogism whose premises contain the conclusion. Let us take another example; *Mortal Man.* He whose experience goes so far as to assure him that man is *mortal* universally, that is, including men that live, and men that will live, will find this phrase correspondent with the other: but if the premises should be doubted,—that is, if it should be doubted whether the knowledge we have under the term *mortal* can be applied thus universally to *man;* or whether the word *man* includes thus universally of *man* what we mean by *mortal*, then we have to await further facts in order to confirm or set aside what the phrase expresses. Suppose the facts at length suggest the result, such result will be an *inference*, not a necessary conclusion; till at length the previous knowledge being granted, the conclusion is necessarily granted with it. Now every syllogism drawn out in form, if we deny or question its premises, will lead us thus back to the same state of things, namely, a state in which the conclusion will not be a necessary consequence, but an inference. Hence, then, as there is no *virtual* difference between a syllogism, and any expression constructed of two words that make sense, we may take the latter, namely two words that make sense, as the original, because the simpler form of expression, which Logic employs in the deductive process, and refer all other

forms, including the syllogism itself, to that simpler form of expression. Two words that make sense may not, however, form a sentence or proposition: they may form only a part of a sentence, that is a part of speech. This indeed is of no moment to Logic, if we look only to Logic independently of Grammar. But logic though distinct in theory from grammar, is, in practice, indissolubly connected with it; and hence a complete expression of logical deduction must be at least a sentence. Now the shortest sentence that can be constructed, is that which consists of nominative and verb; and this, as being the shortest and simplest form of expression, may be regarded as the original form in which knowledge is developed in deductive Logic; as, "Man reasons;" "Man dies;" "John lives;" "Fairies frolic."

35. But the noun and the verb, which are the only essential parts in the logical development of knowledge, may each be a constructed part, that is, may be a part indicative of further logical development. Instead of saying "reasons," (see above,) we may say, "is a reasoning creature;" and the whole proposition will then be, "Man is a reasoning creature." The other propositions may be developed in a similar manner. Whether developed in this way or not, the process of the understanding will be the same: the result must always be expressed by instrumental signs, which being joined, form one expression with one meaning. Thus, for instance, the following sentence, when all its parts are put together, is one expression for one meaning, "Man, noble in reason, infinite in faculties, in form and moving express and admirable, in action like an angel, in apprehension like a god, —is a wonderful piece of work." The development of its one meaning is, primarily, into two parts, which two parts may be called nominative and verb. These two parts are subordinately divisible, till we reach the grammatical single parts of speech which form the larger grammatical parts. In Rhetoric, it might be advisable to reach the result by several distinct sentences; and each sentence, in Rhetoric, might advisedly take the form of exclamation:* but these expe-

* For instance, as it stands in Shakspeare, "What a piece of work is man! How noble in reason! How infinite in faculties! In form and moving, how express and admirable! In action, how like an angel! In apprehension, how like a god!"

dients are forms for influencing other minds, not forms which the thinking mind requires for the development of knowledge in order to satisfy itself. This doctrine being admitted, we conclude that the sentence consisting of nominative and verb, however these two parts are subordinately divisible, is the original or primary form in the logical development of knowledge.

36. Still, as the custom of Logic, from time immemorial, has been, to refer all forms of speech to that of the SYLLOGISM; and as this agrees essentially with the doctrine unfolded in the previous remarks; there is no necessity to oppose such reference. The following names and distinctions, which assume the syllogism for their foundation, may therefore be acquiesced in: *

37. An EN'THY-MEME is a form of language which includes the three propositions of a syllogism, while it expresses only two of them. Thus, if we say, "Brutes are not rational agents, and therefore are not accountable," we imply, but do not express the datum, "None but rational agents are accountable." Again, when we say "John lived in London; for he lived with his uncle;" the reason given in the second proposition for what is stated in the first, includes the datum that his uncle lived in London; since without that datum, it would be no reason at all.

38. A SORI'-TES is a form of language which includes two or more syllogisms, while it so expresses the reasoning, that each proposition is the ground of the following one, till we reach that in which we design to rest: in other words, it is the *accumulation* of one argument upon another; as, "Man is a creature endowed with reason and liberty; every creature so endowed is accountable for his actions; an accountable creature will be punished for his evil, and rewarded for his good deeds; therefore man will be punished or rewarded."

39. A Logic which builds its principles on the arbitrary

* The reader has to be admonished, that in all these remarks, we are contending against the formal logic of Aristotle, of which the pervading characteristic, is, to attribute to the changing forms of language essential differences of mental act. Against such doctrine, a more explicit opposition is offered in the sixth chapter of this work; to which chapter the reader is referred for a better understanding of the purpose of the several remarks now in progress.

forms of language, so that the parts of speech, whether simple or compounded, are made to act differently and distinctly in the process of coming to a conclusion from premises, is an art quite apart from the Logic treated of in these pages. The former is the art of reasoning *with* words, so as to keep the things signified as much as possible absent from the understanding: the latter is the art of reasoning by *means* of words so used as to keep the things signified ever present to the understanding, in order that our conclusions may be, not from the words, but from the things they signify. Now with regard to this logic, which is the logic existing in the common daily use of language, the grammatical character of a word, or the peculiar form of a phrase or sentence, is unessential to the validity of its acts. It is, for instance, of no moment in our logic, whether we say, *Man*, or *Reasoning man*, or *Man reasons*, or *Man is a reasoning creature*, the thing meant being in each the same, and the whole of the words in the last example forming one expression for the one meaning expressed by the first. True it is that we are called upon, by the form of the first, and of the second expression, to esteem the expression only an instrument of meaning to be developed, and not as meaning yet developed; while, with regard to the last two examples, we are at liberty either to rest in the development so far made, or expect it to proceed further; and in this way Logic accepts the ministry of Grammar: but the differences are unessential in logic, and belong, properly, to the other department of learning. In our logic, again, it is of no moment whether we say, *Every man is liable to error*, or, *No man is free from the liability to error*, since each proposition, as one expression for one meaning, stands for the same meaning; and since each resolves, primarily, into two parts, namely the former proposition into *Every man*, and, *Is liable to error;* the latter, into, *No man*, and, *Is free from the liability to error*, out of which two parts, in the respective instances, the same one meaning springs. When therefore, the former is called an affirmative, and the latter a negative proposition, we leave the distinction to grammar, and consider that logic is in no way concerned with it, though in Rhetoric there will generally be a ground of preference for the one or the other. In our logic, once more, it is of no moment whether we say, *Kings, like other*

men, are mortal, or *If kings are men, they are mortal;* whether we say, *If the world is a sphere, we must be able to reach the same point, by moving from it in any one direction;* or *The world being a sphere, we must be able*, &c. We may admit the one form in each of these instances to be called a *categorical* proposition, and the other a *hypothetical* or *conditional* one: we may also admit, on rhetorical grounds, sometimes the one, sometimes the other, to be preferable: but we do not admit that Logic, in its own strict province, has any concern with such differences, either in propositions, or in the syllogisms which may be developed from them.

40. There is, however, one description of syllogism, whose difference from others our logic acknowledges, because it is not a mere difference in form of expression, but a peculiarity in the character of the knowledge developed. The syllogism referred to, is called the DILEM'MA; a form of expression never justly possible but when the knowledge to be developed includes something true and something not true, while it does not include which is which: for instance, the knowledge or datum, that *The blessed in heaven will be fully content, either because they will have no desires, or because their desires will be completely gratified*: the knowledge or datum, that *Æschines joined in the public rejoicings, in which case he is inconsistent; or did not join in them, in which case he is unpatriotic*: the knowledge or datum, that *A certain man spoke irreverently of scripture in jest, in which case he is not wise; or in earnest, in which case he is not good.* These, unfolded into syllogisms, will be examples of the Dilemma; as,

"If the blessed in heaven have no desires, they will be fully content; so they will if their desires are completely gratified; But either they will have no desires, or have them completely gratified: Therefore they will be fully content."

"If Æschines joined in the public rejoicings, he is inconsistent; if he did not, he is unpatriotic; But he either joined or not: Therefore he is either inconsistent or unpatriotic."

"If this man were wise, he would not speak irreverently of scripture in jest; and if he were good, he would not do so in earnest: But he does it either in jest, or in earnest: Therefore he is either not wise, or not good."

The manner of reasoning called *Reductio ad absurdum*, (bringing to an absurdity,) may be mentioned with the

dilemma, as requiring, like it, a double supposition; the difference being that it completely establishes one of them; as, "This road to our house is either straight or crooked. I affirm it to be straight, but I have no direct proof: say, then, that it is crooked. But it is of the same length, and extends between an equal distance, with one which we know to be straight. Thus we have two lines of the same length, and extending between an equal distance, the one by admission straight, the other by supposition crooked; which supposition is absurd. Therefore the line or road in question is not crooked; that is, it is straight.

41. An EPICHIRE'MA is a syllogism with arguments or proofs appended to one or both of the premises. Let the following syllogism be the foundation of an epichirema:

Datum.—"An event that has always followed an act, will continue to follow it when circumstances are the same.

Argument.—"Death has always quickly followed the drinking of this juice.

Conclusion.—"Therefore, the circumstances continuing the same, death will, in this instance, quickly follow the act of having drunk of this juice."

The following further development will give to this syllogism the name Epichirema:

Datum.—"An event that has always followed an act, will continue to follow it when circumstances are the same. This is not a necessary truth, but the persuasion of habitual experience, and we acknowledge its certainty by calculating, without hesitation or doubt, on issues that have often been tried.

Argument.—"Now the drinking of this juice has always been quickly followed by death; as I can affirm from instances that have come under my own observation; from many more that have been reported to me by friends; and from innumerable others which past recorded experience bears witness to.

Conclusion.—"Therefore, unless something can instantly be done to change the circumstances in the present case, death will quickly follow the act that has been committed."

In this laborious way does Logic, if left entirely to its own mode, develop knowledge—Logic which is without passion, —without impulse to action. Rhetoric would be much more brief notwithstanding her repetitions,—"He'll die! he'll die! he has drunk poison! Oh! for an antidote!" Virtually, we here have the whole of the previous argument, with emotion, and urgency to action, superadded.

Practical Directions continued: Exercises suggested for Improvement in Logic.

42. There can be no proper practice of Logic which is different in principle from that which directs the ordinary use of language. In the previous pages we have been employed in ascertaining what that principle is; and now that we know it, we have to act upon it as before, but with the caution which theoretical knowledge confers. It is true that the ordinary use of language aims at rhetorical effect as well as logical precision; in other words it is meant to influence others, as well as to develop the knowledge in the reasoner's mind. But in practice it is not wise, nor would it be easy, to separate Logic from Rhetoric by any very rigid line: for Logic is the proper ground of Rhetoric, and the practice of Rhetoric includes or ought to include Logic. In following such exercises as are hereafter suggested, the learner is therefore only cautioned against any style which dispenses with a patient and laborious employment of thought; but provided he fulfils his duty in the clear development of his own knowledge, he needs not be the less satisfied, if his language has a correspondent effect upon other understandings.*

43. Improvement in Logic is best promoted by the writing of what are called Themes. The word *theme* properly means the subject of a discourse; but the discourse itself, if merely an exercise, is also called a theme. We begin with a title, which title may be a single grammatical noun, or a logical noun, or a proposition.†

44. The title or subject of a theme being a mere grammatical noun, will be the name of a thing *real*, or *ideal*, or *metaphysical*;‡ while the name itself will be *proper*, *common*,

* Compare Section 1 of the present Chapter, p. 140.

† Compare Section 7 of the present Chapter, p. 145.

‡ Compare Sections 18, 19, 20, Chapter II. pages 117, 118.

or *abstract.*) Thus *Solomon, Socrates, Alexander, King Alfred, Homer, Virgil, Shakspeare, Milton, Aristotle, Bacon; London, Rome, Paris; Thames, the Rhine; Vesuvius, the Alps;* are proper names of real persons and things: *Ceres, Bacchus, Queen Mab, Lilliput, Brobdignad;* are proper names of ideal persons or things: *Animals, Vegetables, Minerals; Man, Beast, Bird, Fish, Insect; Tree, Shrub, Herb; Earth, Stone, Metal;* * *Fire, Air, Earth, Water;* are common names of real things: *Fairies, Ghosts, Fauns, Nymphs;* are common names of ideal things: *Virtues, Vices, Qualities, Attributes;* are common names of things metaphysical. *Faith, Hope, Charity; Prudence, Justice, Temperance, Fortitude;* are names abstract of things metaphysical. And any one of these becomes the title of a theme by putting the word *On* before it.

45. Among the previous classes of names or subjects, that of most frequent choice or occurrence will be the last,—a thing metaphysical under a name abstract: of which the following are given as further instances, with hints subjoined to assist the learner in developing his knowledge.

On Conversation. On Writing. On Reading. On Travelling. On History. On Building or *Architecture. On Sculpture. On Painting. On Music. On Poetry.*

These are things exercised, or done, or known, and imply persons who exercise or know them. Hence they are things metaphysical, and the cautionary principles † must be kept in mind. The generic name will be, an ability or practice, an art, a science: an art may be further developed by the distinction mechanic; or fine,—(ornamental;) and the specific nature or more particular description will complete the first point. Then may come some one, or more, or all of the following points: the improvement or the use derived or derivable: the pleasure derived or derivable; the abuse or omission, and consequent disadvantage or mischief. In some instances, the progress of the art or science from early times to the present may be glanced at. Such are the points which may be taken in treating the foregoing subjects.

* Ordinary and not scientific knowledge, is aimed at in suggesting these titles.

† In Chapter II. Sections 15, 16 at pages 114, 115; and Sections 20, 21 at page 118.

These being left for the learner to develop,—one, or more, or all,—another subject of the same class is added, with a development appended by way of example.

"*On Observation.*

Observation is the practice of using the natural powers of sense and understanding, so as to reach and retain all the knowledge we can. With regard to this practice, there are great differences among us. Some, with powers naturally good, and with extensive opportunities of gaining the wisdom that grows with experience, seem to pass through life with their senses and understanding closed, and leave the world almost as ignorant as they entered it. They hear wise converse, and read wise books, but derive no practical advantage from either. They see others fall into difficulties and dangers, of which the causes and consequences are easily traceable; but they neglect to trace them, and learn nothing by which they may avoid the same mischiefs. They travel through countries, and see new manners and customs; but they make no comparisons, nor draw any useful conclusions. In short, their minds resemble a stagnant pool of water, which, if it collects anything, covers itself only with weeds. In the meantime, there are others, whose sphere of remark is very limited, but who appear nevertheless to gain experience at every step, and to grow in wisdom as they grow in years.

The difference which has been alluded to, arises from nothing but the imperfect exertion of the natural powers in the one case, and their proper and active use in the other. A habit of inattention, or a habit of quick-sighted observation, appears to be gained or lost, much in the same way as habits of bodily indolence or activity are gained or lost. It is the determination of the will, or the want of it, that in either case, produces the good habit, or allows the evil one to form itself. Let us determine to keep the senses and the understanding closely applied at proper times to their appropriate objects; and, with perseverance, the good habit will be gained, and the evil one avoided."

The following are other instances of subjects that are things metaphysical under names abstract:

On Curiosity. On Hope. On Fear. On Anger. On Pride. On Humility. On Envy. On Emulation. On Piety. On Patriotism. On Generosity. On Selfishness. On Avarice. On Prodigality.

The generic name of these will be, a principle in human nature, or an impulse, or a feeling, or a sentiment, or a passion. The particular description from the effects produced will be the difference. The definition thus made out, the next point may be, the benefit or the evil. In some of the subjects there will be both a benefit and an evil, depending upon the proper and ill regulation of the principle, the sentiment, or passion. Instances from history, or from experience may be added to verify the previous conclusions. It must be observed, further, that some of the subjects, as *Hope* and *Fear*, *Pride* and *Humility*, are so obviously opposed in nature, that the one cannot be considered without reference to the other. Of others, though not opposed, it must nevertheless be observed, that the one cannot be accurately distinguished without some allusion to the other; for instance, *Envy* and *Emulation*, which are passions that spring from the same root, namely, a desire of superiority, but differ by growing the one in a base, narrow, selfish mind, —the other in a generous one. *Courage* and *Fortitude* are subjects that require also to be distinguished, not on the same, but on peculiar grounds. As an example to guide the learner, the latter of these subjects is developed under certain points hereunder:

"*On Fortitude.*

Fortitude and Courage are not synonymous words, though each quality in some degree implies the other. Fortitude is passive, Courage is active. Fortitude is strength to endure pain, or other calamity; Courage is the absence of dismay in meeting and contending with that which threatens pain or death. Yet a courageous man can scarcely maintain his title, if he has no fortitude: a woman of fortitude can scarcely be so deemed, if she has no courage.

We may distinguish these virtues by other marks.

Courage is much more frequently a constitutional quality, than one derived from thought and moral principle: the other may also be constitutional, but it is much more frequently derived from the latter source, or at least improved by aid from it. Men are more courageous than women, because with them the bodily frame is stronger. Women are often found to have more fortitude than men, partly from a difference of constitution, but frequently because religious or moral feelings are purer and stronger in them than in the other sex.

But equally in woman and in man, Fortitude is a quality indispensable to the perfection of the human character. We are born to pain, or to calamity that produces or threatens pain. Without strength to endure, the pain or calamity is more than doubled, and a person who has no portion of such strength, is not only more miserable than they who have it, but is less respected and esteemed.

The question however remains, whether Fortitude depends upon discipline, or is altogether a gift of nature. We may safely answer that the best source of Fortitude is religious and moral instruction. It will aid natural strength where nature is already strong: it will supply it where nature is weak. He who, in affliction, feels that the hand which afflicts means the transient evil for future good, will be able to bear the weight of that hand without repining. Like the virtuous Job of old, he will rise above his trials, and, like him, will find, sooner or later, a reward for his endurance."

46. We have seen * that the arguments or *means* used in developing knowledge, are internal or external; in other terms, subjective or objective. When the name or title of a theme is immediately applicable to an external thing, that is to a real, or an ideal thing, and not immediately to a thing metaphysical bearing an abstract name, the difficulty of de-

* Section 12 of the present Chapter, page 148.

velopment is increased, (because the thing presents itself under a double aspect,)—namely in its individual, outward, *objective* shape, and as a *subject* that may be traced from the stores which the mind has already appropriated; stores which may be said to be already a part of the mind itself. Let us say, for instance, that *Socrates*, the proper name of an individual person, is proposed as a theme: (to treat this objectively would be, to detail the facts belonging to the individual,)—the place and time of his birth, who were his parents, what were the acts and events of his life, what the time and manner of his death. But we may omit these facts or take them for granted as known to all persons of education, and confine our development to thoughts generated by these facts, so that in truth the theme would more properly be entitled (*An Estimate of the Character of Socrates*, or *Thoughts on the Character*,) &c. Thus named, and thus pursued, the theme would class with those already exemplified, namely a metaphysical subject under a name abstract; for the several words form one name with one meaning; and that name taken as one, is a name abstract. We are at liberty, however, to develop our knowledge in both ways; and all that, in such case, we have to remember, is, to keep the points clear and distinct both in thought and in expression, and not to let the single name *Socrates* be a hindrance to the fixing of proper points for consideration.—Let us take, for another instance, the common name *Man*, as including knowledge proposed to be developed by a theme:—how shall we proceed? We are distracted at first by the apparently interminable considerations that spring indistinctly, like blending rays, from this centre. To consider man objectively requires the thinker to be an anatomist, a physiologist, a tracer of the race in every variety which climate or original constitution has generated; which is to expect more than can be fulfilled by any one person. For an ordinary theme, if some objective points are taken, they must be such as present themselves to every observer; as for instance the human shape compared with that of other animals; and the superior intelligence by which the strongest and most cunning of those animals are subdued. But under the name *Man*, it is not uncommon to find that the knowledge developed is merely subjective; which happens when *man* is

considered not in his physical, but only in his moral relations.* The title in this case would strictly be, *On the Moral Relations of Man;* and thus named, the theme would class with those already exemplified.—Let us take, for a third instance, the plural word *Ghosts*, a name of certain things ideal: an objective development of knowledge under this title, would be a description of the times, the places, and the appearances of ghosts, either according to special reports, or founded upon opinions that are, or have been prevalent. But, retaining the title, all objective reference to ghosts might be omitted, and the theme pursued subjectively, as if the title had been, *On the Belief in Ghosts:* when it would appear to be a theme classing with those already exemplified.

47. It further appears from what precedes, that the title of a theme may be a grammatical noun-substantive, as *On Ghosts, On Knowledge,*—or a logical, that is a constructed noun-substantive, as *On the Belief in Ghosts, On the Knowledge of the World.* (But a proposition, a moral saying, or a proverb, may be placed as the title of an exercise) as, *A proper Knowledge of the World is favourable to Virtue: Trust not Appearances: Honesty is the best Policy.* A theme thus given out is commonly called a *Thesis.* There is, however, no essential or necessary difference between a thesis and a theme,† except the form of title; for without requiring any change of what may have been developed under one form, the title may at pleasure take the other form; as *On the moral Advantages of a proper Knowledge of the World: On the Danger of trusting to Appearances: On the Policy of being Honest.* The following exercise, for instance, which is called a thesis, would be a theme, by such change of title as is suggested above.

"*Trust not Appearances.*

It is highly imprudent to be guided in our opinions and conduct by first appearances. For the worst of

* Pope's poetical Essay on Man is an instance.

† The terms, moreover, are etymologically the same. Some teachers make a difference between both of these, and an Essay. Such distinctions, being, as they are, distinctions without a difference, are made either in ignorance, or for the sake of practical differences which would be better indicated in some other way.

persons and of things wear at times the most engaging aspect: the wily thief approaches in the garb of scrupulous honesty: the corrupter of hearts carries on his brow nothing but benevolence and candour: vices of every kind assume the guise of virtues: and pleasures that end in misery promise, at first, nothing but delight. In things of less importance, deception and fraud are equally common. The unjust trader gives a false appearance to his wares; and mere empirics in art or science make larger promises than they who are really skilful.

This description of what we meet with in the world is supported by further proofs. It is because the arts of deception are spread in every direction, that parents are careful to impress on their inexperienced children the necessity of caution. It is on this account that all reflecting people consider the heedless, the giddy, the easily-confiding, to be in constant danger. It is for this that, as we grow in years, we alter many, if not most of our judgements, and become more suspicious even when, by an increase of our experience, we are less in danger of being deceived.

The world may be called a garden abounding with noxious fruit, among which much may be found that is wholesome: but unfortunately the far greater part of the former is more enticing to the eye, and, on first taste, far sweeter than the latter. If the simile has any truth in it, we are warned never to pluck and eat without the utmost caution.

Poets as well as moralists bid us beware how we trust to the world. Shakspeare calls it

> ——— the guiled shore
> To a most dangerous sea, the beauteous scarf
> Veiling an *Indian* beauty; in a word,
> The seeming truth which cunning times put on
> To entrap the wisest.

As to History, it is full of practical warnings on the subject before us. Let us take one as an example of the rest. When the Greeks, after a ten years' siege, found themselves unable to take Troy by force, they feigned an abandonment, and left behind

them a large wooden horse filled with armed men. This being dragged into the city by the credulous Trojans, the men left their concealment in the night, opened the city gates, and gave admission to the besiegers. Thus fell Troy: and thus are all persons liable to be lured to their destruction, who will not mistrust appearances when there is danger of being deceived.

Let us, then, in passing through life, never be too secure or confiding,—but when new doctrines are offered to our notice; or new inventions that throw the old into the shade; or new acquaintances whose manners are more engaging than those of tried friends, —let us suspend our judgement, and not be carried away by first impressions: let us wait till time and experience furnish some sure grounds for the opinion we are inclined to form, or the conduct we are disposed to pursue."

The points signified by the several divisions or *paragraphs* of this example, are named, by some teachers, the PROPOSITION and REASON; the CONFIRMATION, or additional reasons; the SIMILE; the QUOTATION or testimony; the EXAMPLE; the CONCLUSION.* Such divisions may, or may not occur in the development of knowledge under any other title.

The following are other theses on which exercises may be written: *Home is home.—A rolling stone gathers no moss.—A burnt child dreads the fire.—Charity begins at home.—There's many a slip 'twixt cup and lip.—Necessity is the mother of invention.—Harm watch, harm catch.—Let the shoemaker keep to his last.—Ignorance is full of wonder.—Nothing venture, nothing have.—Well begun is half done.—Enough is as good as a feast.—'Tis an ill wind that blows nobody good.—Tread on a worm, and it will turn.—Penny wise and pound foolish.—Take care of the pence, and the pounds will take care of themselves.—Good words cost nothing.—Better lose a jest than a friend.—Pardon others, but not thyself.—He lives long enough who hath lived well.—The worst of crosses, is, never to have had any.—Fools rush in where angels dare not tread.*

* The several topics (see Sections 12–24) whence the arguments are derived for the parts of this exercise, are, for the Reason, *experiment*; for the Confirmation, *effects*; for the Simile, *comparison*; for the Quotation, *testimony*; for the Conclusion, *adjuncts*.

CHAPTER V.

ERRORS TO WHICH LEARNERS ARE LIABLE IN ATTEMPTS TO DEVELOP KNOWLEDGE.*

1. Experience in aiding pupils to develop their knowledge, will soon make manifest that, according to the disposition of each, and the qualities of his understanding, he will infringe the laws of logical deduction in one or the other of the following ways:

1. BY VERBIAGE;
2. BY CONFUSED REASONING.
3. BY DISJOINTED REASONING;

VERBIAGE.

2. Verbiage is an *art* which stands by itself: it is the art of joining well-sounding words into correct forms of sentences, with little or no regard to any resulting sense; the art of using language grammatically, but not logically; the art of *appearing* to reason, and employing words for this end, but of employing them in the absence of the knowledge which they ought to include. We here call it an *art:* it is an *art* in the bad sense of the term.

† A pupil who has read, but has not thought a great deal, will have his memory stored with book phraseology, but will be deficient in such knowledge as may be justly called his *own.* He can supply this deficiency, only by a determination carried into practice, of reasoning from *things;* and, consequently, of going back to the inductive process, whenever his knowledge of things shall fail him. But if, instead of taking this course, he seeks only to make a parade of knowledge, by joining terms and phrases familiar to his memory which look well to the eye, and perhaps sound well to the ear, his beginning exercise will, in kind and character, resemble the following example:

* Much of what follows, and portions of what precedes, I have already published in a little work called "Practical Logic, or Hints to Theme-Writers," which first appeared in 1823. I state the fact, lest it should be thought I have borrowed from certain compilers of grammar what they have borrowed, without acknowledgement, from me.

† The pupil pursuing the First Course indicated in the Appendix, will do well to read what immediately follows, but the question put to him will be sufficiently met by what precedes. Wherever a correspondent remark is needed hereafter, this note will be referred to.

"*On Education.*

"The invaluable blessings of a refined education, are so multifarious in their extent, and so incalculable in their essence, that the understanding and the imagination are equally unable to comprehend the phenomena involved in the boundless subject. Who, indeed, can justly appreciate the ineffable advantages which accrue to gifted individuals, ardent to exhume the germs of scientific lore, and attain the opulent results of disciplinary progress? Educational instruction exalts the faculties, animates the mind, improves the understanding, and, by throwing a divine light on the abstract operations of human intellect, gives a new grace to the whole character. Through the instrumentality of the influence which education alone can impart, we are lifted to another sphere. In short, education is the first of things, the master-key, the universal good; and we are bound at once to reverence its authority, and apply to its pure fountain for mental delight, and intellectual improvement."

Let it be supposed that this exercise has been written by a pupil, after a conversation with his teacher on the subject to be developed. Now, when a pupil makes proper use of a conversation so given in aid, the fact that all the immediate knowledge he develops has been supplied by the teacher, is no impeachment of the soundness or reality of the pupil's knowledge: for all our knowledge is acquired chiefly from what others communicate: how, and at what time, is of little moment, provided the instructed mind completely embraces and appropriates the knowledge. But there is this difference between two pupils so assisted by a teacher: the one forgets the phrases, and forms of speech, because his understanding has been intent on the things signified, and not on the words; and, therefore, in embodying the reasoning, his style will be his own, not an imitation of his teacher's: the other carries away little more than words and phrases, such as he has been accustomed to admire in reading, and these he puts together in the best way he can, so as to form an exercise more or less resembling the example just given. Such an exercise is not a beginner's essay in methodical *think-*

ing: it is an exercise in an *art* whose purpose is, to conceal the absence of distinct thought: and the teacher, to do his pupil justice, must run his pen through the whole essay, and require a new beginning upon what, to such a pupil, will be altogether a new principle. Not so with the other supposed pupil. Let the expression of thought be ever so poor and meagre, yet if his exercise contain clear evidence that the mind has been at work on the subject suggested, it ought to be accepted as a beginning of logical effort: improvement will come with practice, if the early deficiencies are pointed out and understood. The faults which such a learner is likely to commit, are described and exemplified under the two general heads that follow:

Confused Reasoning.

3. This fault, when it becomes evident in language, will be found to arise from the absence of proper distinctions and divisions.

* The following, which is an exercise by a very young logician on the same subject as the previous example, and may be supposed the result of the same previous suggestions, will serve to show the nature of the fault.

"*On Education.*

> Education is certainly one of the most important things which belong to man, and the most useful and essential of any, if we reflect what a wild savage race we should be, if it were not for this inestimable blessing, and how very fortunate they ought to think themselves who have friends both able and willing to provide the means of it, without which we should not know the Author of our existence, to whom we are indebted for all our blessings and comforts, and we should not be able to provide for ourselves, for it is not the same with man as it is with birds, which instinct teaches to provide for themselves when they leave the nest of their parents, instead of which we are not only made agreeable in society, but if we

* See the second foot-note, page 180.

make a proper use of it, it is the source of all happiness, and therefore since we are sensible of its worth, let us who possess it think ourselves unspeakably happy, and never think it too much trouble to obtain, for surely it is the least we can do for such a valuable benefit."

This production, deficient as it is in all the other requisites of good composition, is not without some evidence of real thinking. Let this, then, serve as an example of the first formal attempt in the art which is treated of in these pages. The correction of the exercise, with a clear understanding, on the pupil's part, of the nature and purpose of the corrections, will complete and constitute his first practical lesson in logic. Let him observe, then, that he has run on, from the beginning to the end of his exercise, without a single division; and that he has used no stop but the comma, till he has reached his full stop at the end. Now, though it is true that grammar is one thing in theory, and logic another, and that the stops are regulated by grammar and not by logic; yet grammar and logic go together in practice, and there cannot be confusion in the former, that does not tend to obscurity in the latter. Let him, therefore, look with the eye of a grammarian on his work, and he will see that grammatical construction is often complete, where he has put only a comma. Complete construction always requires one of the higher stops,—strictly the periodic or full stop, but at least the colon or semi-colon. The logical connection is not broken by these marks of grammatical completeness, but, on the contrary, is made clearer. Construction may and must frequently pause, while the logical process continues, supposing this process to be of any length: and these constructional pauses must be indicated by the usual points. Further, let the learner observe, that his line of argument naturally diverges from two points, namely, 1. *The importance of education;* and, 2. *Our consequent duty as young students;* so that the whole theme separates into two subjected themes, that ought to be implied, though not formally named, by a division or break in the writing, exhibiting the whole theme in two *paragraphs.* Thus by logical subdivision and grammatical division, with a few minor corrections, the whole theme will take the following shape:

"*On Education.*

Education is the most important and essential concern of man. For let us reflect what a wild, savage creature he would be, without this inestimable blessing. He would not know the Author of his existence, to whom he is indebted for all his comforts. He would not be able to provide for himself. For it is not the same with man as it is with birds: they know, almost entirely by instinct, how to provide for themselves; but all knowledge necessary to man comes by education. It is education which lifts him from his helpless state, makes him an agreeable member of society, and prepares him for all happiness.

Since, then, education is so important, let us to whom it is offered think ourselves unspeakably happy, and never imagine we can employ too much pains to secure all its advantages. Let us reflect how very fortunate we are, in having friends both able and willing to provide the means of instruction; and let us show our gratitude by our willingness to learn; which is surely the least return we can make for benefits so valuable."

DISJOINTED REASONING.

4. Disjointed Reasoning is the development of knowledge in parts not properly connected with each other. The propositions may be separately true, but the truth of the one does not lead to, or flow from that of the other.

* Warned by the confusedness which appeared in his first attempt, and aiming at the greater distinctness of the corrected copy, the learner will, perhaps, at the next attempt, produce an exercise formed of sentences after the following manner:

"*On Friendship.*

Friendship is a subject which has often employed the pen of the moralist. We all feel that friendship is necessary to our happiness. Many persons pretend to be influenced by friendship, who are incapable of

* See the second foot-note, page 180.

so noble a sentiment. Without a friend, the world," &c. &c.

Sentences of this kind do not form discourse:—they indeed all relate to the same subject or *theme* in one sense of the word, but they do not constitute a theme in the other sense:* they are so many distinct propositions, and ought indeed not to be written down in immediate succession, but with breaks in the manner of paragraphs, thus:

"Friendship is a subject that has often employed the pen of the moralist."

"We all feel that friendship is necessary to our happiness."

"Many persons pretend to be influenced by friendship, who are incapable of so noble a sentiment."

This is the way to write maxims or proverbs, but a theme must be managed very differently. We must not start from one proposition to another which has no immediate relation to it, but consider in what way our knowledge may be further and further developed in the direction which the initiatory proposition indicates, till nothing more in this direction seems necessary to be said. Suppose a proposition should appear destitute of a purpose which can be thus carried out, we must either reject it altogether, or, by some addition, give it a purpose with relation to what we choose shall follow it. The first of the foregoing propositions will exemplify what is here meant,—"Friendship is a subject that has often employed the pen of the moralist." It seems hardly worth while to make this observation for the sake of itself;—we expect something to follow which may define its purpose: for example:

"*Friendship is a subject that has so often employed the pen of the moralist*, that the few thoughts it may suggest to my mind, cannot be either novel or striking. Yet my remarks, though trite, may deserve some attention, because the subject itself is of the highest importance."

Thus carried out into a rational consequence, and a rejoinder to that consequence, the original proposition becomes a proper introductory paragraph. The next independent proposition may now be taken, and followed up thus:

* See Section 43, page 171.

"*We all feel that friendship is necessary to our happiness.* Individually weak, we stand in continual need of assistance, support, advice, and sympathy. But the coldness of the world, and even the indifference of our own hearts to all except a few by whom we are surrounded, soon teach us, that, without sincere friends, we may look for these good offices in vain. Therefore, we always flatter ourselves we possess friends, though there are many who pass through life unendeared to a single heart, and who are never served or assisted but through motives of interest or of fear."

This paragraph being completed, we may take the next independent proposition as the ground for a third:

"*Many persons pretend to be influenced by friendship, who are incapable of so noble a sentiment.* The selfish cannot feel it:—they will connect themselves with others to reap some immediate advantage, but they are ever strangers to that regard which frames to itself a happiness out of the happiness of others: all their views are of profit or of pleasure solely to themselves. Yet none are more ready than the selfish to give the colouring of friendship to all their actions; because they know this to be the most likely means of securing the return of greater benefits than they yield."

It is to be observed that not only should the sentences of the same paragraph be logically connected, but the paragraphs themselves should have a closer relation than merely that of treating of the same subject. Therefore, though the foregoing paragraph may not be liable to any objection in itself, yet when placed beside the other, it appears to be defective by not being consequent on what preceded it. This fault may be corrected, by drawing such a consequence from the second paragraph as may serve for the ground of the third: for example:

"As friendship is so important toward the happiness of life, we cannot be too careful in our choice of friends, lest we place a reliance on those who will desert and betray us in the hour of difficulty and distress. For it is but too true that many persons pretend to be influenced," &c.

A short practical conclusion carried on from the word "yield," in unison with the commencement thus prefixed to the paragraph, will give a finish to the whole theme: thus:

"Against such pretended friendship, let confiding generosity be ever on its guard."

5. Thus it appears that a theme ought to be free from verbiage,—that the parts ought to be properly arranged,—and that the thoughts should flow from, and support each other. Every fault which the learner is likely to incur, will be some special mode of violating one or the other of these three general rules.

Under VERBIAGE, the more special names may be, *Petitio principii*, a Latin phrase, implying *the demand* (for our proof) *of the very thing to be proved*: *Non-sequitur*, another Latin phrase, which means, that what is appended as a consequence, *does not follow* as a consequence: and *Error in distinction or division*, which amounts to no distinction or division at all. Again; Petitio-principii may so occur as to allow of still more special designations, namely, *Begging the question; Identical proposition; Explaining a thing by itself;* and *Reasoning in a circle.* So the fault of Non-sequitur may occur in such a manner as to be designated, *Irrelevant premises*, in which the inconsequence is obvious; and *Proving too little*, or *Proving too much*, in which the inconsequence is real, yet less obvious. So, again, Error in distinction or division, branches into *Distinction without a difference*, and *Confusion of cross divisions.*

Under CONFUSED REASONING, the special descriptions of fault may be, *Saying other than is meant; Not distinguishing different senses of the same word; Neglecting the means of distinction and division which grammar provides for the clear development of thought.*

Under DISJOINTED REASONING, the special descriptions may be, *Omitting necessary propositions; Proposing too much or too little; Deviation from the proposition; Discoursing short of the proposition; Discoursing wide of the proposition.* All these may have for their general title, as well *Disjointed Reasoning* as the Latin phrase *Ignora'tio elen'-chi*, which implies—forgetfulness, or omission, of the point to be made out or developed.

The following synopsis will render the previous explanation at once intelligible:

- **Verbiage,**
 - *Petitio principii,*
 - Begging the question.
 - Identical proposition.
 - Explaining a thing by itself.
 - Reasoning in a circle.
 - *Non sequitur,*
 - Irrelevant premises (void of consequence)
 - Proving too little, } real inconsequence.
 - Proving too much, }
 - *Error in distinction,*
 - Distinction without a difference.
 - Confusion of cross divisions.
- **Confused Reasoning,**
 - Saying other than is meant.
 - Not distinguishing different senses of the same word.
 - Neglecting the means of distinction and division which grammar provides for the clear development of thought by words.
- **Disjointed Reasoning,** *Ignoratio elenchi,*
 - Omitting necessary propositions.
 - Proposing too much or too little.
 - Deviation from the proposition.
 - Discoursing short of the proposition.
 - Discoursing wide of the proposition.

Errors in detail which come under the general head of Verbiage.

6. Begging the Question is verbiage exhibited in such form of the *petitio principii*, that the pretended reasoner, in a more palpable way than under the other forms, begs *that* to admitted for a reason of what he asserts, which is no reason at all, but only the assertion repeated in the same, or in tantamount words: as,

"Pride is odious, because it is disliked by all; for it produces universal hatred."

Here, the words *because* and *for*, lead us to expect a development of the cause that makes pride odious, and of the effects which prove it so; instead of which we have two propositions which only repeat, in tantamount words, what the first had said. Omit the words *because* and *for*, and the defect disappears. We shall indeed have three propositions each meaning the same thing; but such repetition, though logically superfluous, is not always a fault in rhetoric, and in the present instance must be indulged by logic, as minister to the sister art; as, "Pride is odious;—it is disliked by all;—it produces universal hatred." Such is one way of correcting the fault, namely, by not raising the question of the truth of what is asserted, and therefore making no pretence of giving a reason for it.* But the mode of correction more agreeable

* To give a reason is but to develop our knowledge with greater detail. We have always to judge whether this is, or is not expedient. In saying *Pride is odious*, we already express a conclusion from premises, namely

to logic will be, to carry out the purpose of *because* or *for*, by adding a legitimate reason; for instance, "Pride is odious; because our self-love makes us feel it as an injury done to our own importance;"—which is an argument from the topic *cause*: and "Pride is odious; for all persons shun the society of the proud;"—which is an argument from the topic *effect*.

7. IDENTICAL PROPOSITION. This form of *petitio principii* differs from the last in no greater degree than its name indicates. It is a grammatical period whose two parts are identical in meaning. Thus in saying "All being exists," we have a period dividing into nominative and verb; but the one means the same as the other, and therefore in putting them together, there is no resulting sense—no conclusion from the two, but only a repetition of the same thing under a different form. Again, in saying "As the tree enlarges, so does its size increase," we have a period dividing into two sentences rendered grammatically dependent by *as* and *so*; but the one sentence means exactly what the other means, and no sense results from their grammatical union. So likewise in saying "Home is home," we have a grammatical sentence dividing into *home*, the nominative, and *is home*, the verb; and if we understand no more from the latter, than from the former, the sentence says nothing: it is, in fact, an illogical, because an identical proposition; though rhetoric vindicates it, by implying under the verb a great deal more than it actually expresses. The following are other examples that neither logic nor rhetoric vindicates:

"The vain and empty glory of this world, is but nothingness."

Here the verbiage will be corrected, and the sentence become rational, by leaving out "vain and empty."

"Foolishly do the vain triflers we so often meet with in life, squander their useless hours in futile pursuits, while they neglect the needful duties which they ought to perform, and are guilty of continual faults which they ought to avoid."

from *pride*, and *is odious*. Knowing what pride is, we know the feeling it produces in others; knowing what it is to be odious, we know what effects go along with the quality. In the deductive process, the alleging of reasons is nothing more or other than bringing forward prominently what thus lies behind the premises of our first proposition.

The verbiage of this example will appear by comparing it with the following correction:

"Many whom we meet with in life, neglect their duties, and squander their hours in futile pursuits."

"A good definition should include all the things to which the word defined is applied."

The verbiage lies in using *good* in constructing the nominative, along with *should* in constructing the verb. We ought to say, either—"A definition should include," &c., or—"A good definition includes," &c.

8. EXPLAINING A THING BY ITSELF. This form of *petitio principii* differs so little from the last, that it may scarcely seem to require a distinct designation. But as, when only a *verbal* explanation is meant, using another word having exactly the same signification is not a fault;* the learner may require to be reminded that this will be verbiage when the *thing* is to be explained; that is to say, the equivalent word will not explain the thing, but only be another word for it. It is, for instance, a fair verbal explanation of *Justice* to say that it is the quality of being *just;* but it is a cheat upon the understanding to deem that, by saying so, we have in any degree developed our knowledge of the thing. We should equally fail, though the fault might be more concealed, if, with an exactly equivalent meaning, we were to use a different word; if, for instance, we said, justice is the quality of being *equitable.* Hence, the following passage is a failure:

"Justice regards both magistrates and private individuals: the former show themselves to be influenced by it, when they make an *equitable* distribution of rewards and punishments; the latter, when they are sincere in their words, and *just* in their dealings."

Let *impartial* and *honest* be substituted for *equitable* and *just*, and the verbiage will be corrected.

9. REASONING IN A CIRCLE. This form of *petitio principii* takes place, when we go on proving one proposition by another, on the understood condition that the last, which is to establish the rest, will be self-evident: and then, instead of fulfilling the implied condition, we return to our first assertion, and use *that* for our proof, when it was the very

* See Chapter III. Section 5, page 134.

thing to be proved. Thus, it is obvious verbiage to say, "Pride is odious, because it offends our self-love; and it offends our self-love, because it is odious." The fault is less obvious, but equally present in the following example:

"Wealth makes the mind uneasy; for it fills it full of care; of care for its increase; of care, lest it should diminish; of care to prevent one portion from being lost, while we are watching for another: *and that all these effects are engendered by the possession of wealth, is established by the fact, that wherever we find riches, we are sure to find uneasiness and disquietude also.*"

The latter part of this example, so far as it pretends to be an argument for what precedes, is verbiage.

* We proceed to a third example:

"The formal syllogism of Aristotle is the test of all valid reasoning, all reasoning being invalid which conforms not to its formulæ: *e. g.* 'All vegetables grow: an animal grows: therefore it is a vegetable.' 'All wise legislators suit their laws to the genius of their country: Solon did this: therefore he was a wise legislator.' Now both these [apparent] syllogisms, and all similar to them" (so the argument continues,) "refuse the test which Aristotelian logic provides, and both of them" (so the argument still continues,) "are instances of invalid reasoning."

When, in proceeding to answer the argument, it is asked, why the latter instance, as well as the former, is an instance of invalid reasoning, the answer given is this;

"That the latter as well as the former, refuses the test which the Aristotelian syllogism provides."

Here, it is clearly evident that the reasoner goes back to the proposition he had to prove, namely that "the formal syllogism of Aristotle is the test of all valid reasoning," in order to answer the question, why the reasoning is wrong in saying, "All wise legislators suit their laws to the genius of their country: Solon did this: therefore he was a wise legislator." That the reasoning here is confusedly expressed, we acknowledge; † but that it is wrong reasoning, can never be established by so palpable an argument in a circle as the

* See the second foot-note, page 180.

† The true character of the fault with which this latter of the two examples is chargeable, will be assigned in the next Section.

instance supplies. And yet it is one of the modes of proof pursued in favour of Aristotelian logic, in the most popular logical treatise of the day.

10. IRRELEVANT PREMISES. Premises are irrelevant when what is said to follow from them, does not follow; as, "Every horse is an animal; sheep are not horses; therefore they are not animals." It is a designation by which we may distinguish one of the modes of the general fault called a non-sequitur, namely, that in which the premises are quite void of consequence.

*If our theory of deductive logic is true, a *non-sequitur* in thought is impossible. In the induction of knowledge, that is, in gathering it into the mind, we may indeed make the most unwarrantable assumptions, and the most fatal mistakes, and in developing our knowledge these errors will re-appear; but they will appear as premises, with no possibility (if we do not give up thought for words) with no possibility of flaw in the validity of our conclusions: inasmuch as every conclusion from premises, is but the fact of developing our knowledge, real or assumed, and of understanding our premises; and with relation to its actual premises, a conclusion cannot but be what it is. We can no more choose in the case, than we can choose in the case of sensation;—than we can choose, for instance, what our sensation shall be, when certain food is offered to the palate, or a certain shape to the eye. Let us know what *red*, and also what *earth* is, and the moment these are embraced as premises by the understanding, is the moment of our being aware of the meaning which, as one expression, they signify; and this is the conclusion from those premises; which conclusion, if the premises are not mistaken, cannot be other than it is. In like manner, let us know that *men are mortal*, and that *kings are men*, and the moment the understanding embraces these as premises, is the moment of our being aware of the conclusion, that *kings are mortal;* a conclusion which, with regard to the actual premises, cannot be avoided, and cannot but be what it is.

A false conclusion, then, with relation to its actual premises, being impossible, we have to ask how there can be such a thing as a false conclusion at all:—and the answer is,

* See the second foot-note, page 180.

that, in the deductive process, there can indeed be no such thing, except when words are made to take the place of thought. Let us know what *square* means, and what a *circle* means, and it will be impossible for the understanding to embrace these as premises, and receive the grammatical combination as a conclusion:—nevertheless, the grammatical combination, *a square circle*, may be offered as a conclusion, and may be by him accepted who takes words for thought. In like manner, let us know what vegetables are, and what animals are, and it will be impossible—though our knowledge includes the fact that they both grow—it will be impossible for the understanding to embrace these as premises, so as to receive, as a conclusion, that an animal is a vegetable. Yet this again may be offered as a conclusion, and may again be by him accepted, who reasons not *by means* of words, but imitates that process by operating *with* words, and failing in the operation, which it is not difficult to do, reaches *that*, which in the true process of reasoning, is an impossible result. Now if the shrewdest of the present, or any other generation, were to employ his wits in devising an instrument by which, in failing to use it according to rule, it should be possible to come to conclusions of the kind here exemplified, he would not be likely to contrive anything so extremely ingenious as the instrument which has been in existence, and partially in use for some two thousand years,—the syllogism of Aristotle, with its apparatus of extremes and middle term. For this instrument, as its advocates declare, proposes rules of reasoning, "which have nothing to do with the truth or falsity of premises, but merely teach us to decide, not whether the premises are fairly laid down, but whether the conclusion fairly follows from the premises."* If the theory of our logic is true, this is something more preposterous than providing spectacles for them who cannot but see clearly, or crutches for them who cannot but walk well. Let us, however, take the instrument as it is put into our hands; and, acknowledging that it guards the reasoner against a wrong use of its forms,—acknowledging this, we say that in using it, we are rendered liable to traps and snares, which would not come in our way, if we reasoned without it. "The

* Whately's Logic: Province of Reasoning, Chap. i. § 1, ad finem.

conclusiveness of an argument," say its advocates, "is" (by this instrument) "made manifest by the mere force" (form) "of the expression, i. e. *without considering the meaning of the terms.*"* Admitted:—but when the reasoner has dismissed all attention to the meaning, there is at least a possibility that he should fail to employ the exact form, and employ one which seems a legitimate syllogism, but is not one: "All vegetables grow: an animal grows: therefore it is a vegetable." The apparent conclusion is of course a *non-sequitur* both in Aristotle's logic and in ours:—in Aristotle's, with reference to its defect in *form*, the fault is specially described as an *illicit process of the major*, or non-distribution of the major term in the premises:—in ours, we call it *irrelevant premises*, that is premises that cannot be embraced by the understanding—cannot be correctly understood—so that the last proposition is inevitable in the act of understanding them. And the practical difference we insist on, is this,—that in using Aristotle's instrument, there may occur the failure which produces the apparent conclusion:—in using language for the purpose of reasoning as our theory requires, the failure cannot, *in the shape exemplified*, occur.

Before we conclude the present section with a few examples to the same purpose as the foregoing, we must vindicate from the charge of *irrelevant premises*, though we cannot from that of *illicit process*, an example associated in Section 9 above, with a foregoing example, in which an animal is made a vegetable. That other example was, "All wise legislators suit their laws to the genius of their country: Solon did this: therefore he was a wise legislator." According to our logic, this is correct though *confused* reasoning; and as an example of confused reasoning, it will again occur in a subsequent section. It is correct, because the argument with its conclusion, "Solon suited his laws to the genius of his country, and therefore was a wise legislator," implies, by its being put forward as an argument for that conclusion, the datum which really exists in the understanding of the reasoner, namely that "All are wise legislators who suit their laws," &c. The confusion lies in his previously saying *other than he means;* which

* Whately's Logic: Synthetical Compendium, Book (or Chap.) II., Chap. (or Part) iii., § 1, ad finem.

confusion is removed by removing the irrelevant proposition, when what remains will be the premises, namely datum and argument, compendiously expressed: or the irrelevant proposition may be changed so that it shall accurately correspond to the datum in his mind.

Of examples of *irrelevant premises*, the snares and traps into which we are liable to run through an incautious trust in Aristotelian forms, and a non-observance of their rules, the following are appended as further specimens.

"If the hour-hand of a clock be any distance, say a foot, before the minute-hand, the last, though moving twelve times faster, can never overtake the other. For while the minute-hand is moving over those twelve inches, the hour-hand will have moved over one inch; so that they will then be an inch apart; and while the minute-hand is moving over that one inch, the hour-hand will have moved over $\frac{1}{12}$ of an inch; so that it will still be a-head: and again, while the minute-hand is passing over the space of $\frac{1}{12}$ inch, which now divides them, the hour-hand will pass over $\frac{1}{144}$ inch; so that it will still be a-head, though the distance between the two is diminished; &c. &c. &c.; and thus it is plain we may go on for ever. Therefore, the minute-hand can never overtake the hour-hand."

This example, which brings us to a conclusion contradictory to our clearest experience, is liable to be startling to a person who has any reliance on the mere forms of reasoning, more especially if he is acquainted with the truth, that, in mathematics, there are lines under certain conditions, which, though they are always approaching, can never meet. But this, which in certain cases can be true of abstract lines, that is lines unlimited by place, time, or dimensions, cannot, of course, be true in physics. How, then, is the *appearance* of truth given to the foregoing form of reasoning? By relying on the *form*, so as to keep the true *datum* or knowledge out of sight; namely, that "the hour-hand can never overtake the minute-hand *within the space at which they are at any time asunder*, but that this space will continually diminish till at last there shall be no space between them." It is now evident that no argument can be joined with this datum, which shall not be irrelevant to that which is appended as a conclusion,—namely,—"Therefore the minute-hand can *never* overtake the hour-hand."

"None but whites were civilized; the ancient Germans were whites; therefore they were civilized."

"None but whites are civilized; the Hindoos are not whites; therefore they are not civilized."

"None but civilized people were whites; the Greeks were whites; therefore they were civilized."

These are traps intended for the non-Aristotelian reasoner, who, in trying to grasp the knowledge held out in the premises, is beset by difficulties which the Aristotelian does not concern himself with; difficulties arising from the nature of the subjects, inasmuch as white men and dark men, civilized men and uncivilized men, are not separated in point of fact by any determinate line, but run into each other. *Our* reasoner will hence be inclined to deem each example inconclusive; and when the Aristotelian desires him to take the premises in each for granted, and then to distinguish the faulty example, he will find no one faulty beyond some confusion of expression; inasmuch as, in each instance, the argument (the second proposition) involves the *datum* required, in the very act of being put forward to reach the appended conclusion. Thus the *datum* which he understands in the first example, is, "All whites were civilized;" nor is it of moment to him, (except from the confusion it creates,) that the first proposition is irrelevant *as there expressed*, since the second and third contain, to his understanding, the premises he is called upon to admit. The Aristotelian, indeed, exclaims "Non-sequitur—undistributed middle;" but what is this to him who reasons, not *with* words, but only by *means* of words? or what admission has been drawn from him, which is likely to mislead his understanding in the future course of the reasoning?

"Light food is good for me: (i. e. food light of digestion.)
But this food is light: (i. e. light in specific weight.)
Therefore, it is good for me."

"Projectors are unfit to be trusted: (i. e. people who are always projecting.)
But this man is a projector: (i. e. a man who has brought forward a project.)
Therefore, he is unfit to be trusted."

"What is bought in the market is eaten: (of course, after being cooked, if necessary)
But raw meat is bought in the market:
Therefore, raw meat is eaten."

"All the angles of a triangle are equal to two right angles: (i. e. all taken together.)
This is the angle of a triangle: (i. e. one of the angles.)
Therefore, it is equal to two right angles."

"Five is one number:
Three and two are five: (i. e. they make up when joined.)
Therefore, three and two are one number."

These are traps for the Aristotelian reasoner, and not for ours. It is true, the latter may, in the induction of his knowledge, have been led, in such a case as the first, to bring under one term things in their nature different, and hence, because his premises were wrong, to deduce, in thought and practice, a wrong conclusion;—to deem, for instance, as indicated by the example in view, that food which weighs light in proportion to its quantity, is on this account light of digestion. But being taught to look to the subject-matter of his premises as the only source of invalidity in his conclusions, he is surely less likely than a reasoner not so taught, to rest satisfied with his deductions. The other examples can scarcely deceive him for a moment: to his understanding, the premises in all will at once appear irrelevant to their respective conclusions; nor can they, in fact, deceive any one but a reasoner who gives up all attention to the subject-matter of his argument, and trusts entirely to its form. Indeed we may fairly ask of the Aristotelian reasoner, why, on *his* principles, these forms of argument are not received? To say that we must not here rely on the forms, but go back to the meaning of the terms, is to confess, after all, that the subject-matter is everything, and the forms nothing. Hence, it is matter of complaint with Dr. Whately, that when Aristotelian teachers come to fallacies thus protected, as it were, by the very form of the syllogism, they have recourse, in order to expose them, "to a loose, vague, and popular kind of language;"* which may be translated to mean, that they now employ, for the first time, the language of common sense, in order to reach the common human understanding. Dr. Whately would have them more cautious, reminding them of the shelter of technical language, by which the esoterical disciple may still be kept aloof from the common

* Whately's Logic: Book (or Chap.) III. of Fallacies: Introd.

herd; as, for instance, by denominating the errors in the foregoing examples, *ambiguous middle; confusion of different intentions; fallacium a dicto secundum quid ad dictum simpliciter*, &c. Will an age so advanced as the present, tolerate much longer this learned trifling?

11. PROVING TOO LITTLE.—This must be a non-sequitur; a physical or real one, the facts of the case not reaching what we seek to establish; as when we say, "Our friend John never cheats or steals; and therefore he is a man of *every* virtue." The words *and therefore* are verbiage: what follows them may be true, but not true as a consequence of what precedes. The same fault, a little more concealed, is exemplified in the following:

"No man can be happy who pursues nothing but pleasure. For to procure what the world calls pleasure, requires money, health, and spirits; but most men who always pursue pleasure, will be always wanting some of these."

Nothing more is here proved, admitting what is averred, than that *most* men who pursue pleasure cannot be happy. The full proof would not be difficult by a wider induction of particulars; and it is only necessary to remind the young logician, that when he intends to establish a truth, he should bring forward all the facts, which may force a reasonable mind to admit it. He might, for instance, aver, as to the proposition in view, that, "the constant pursuit of what the world calls pleasure, unwarranted as it is by reason and conscience, will *ever* be found to harass the spirits, undermine the health, produce languor and satiety, and, at last, instead of real enjoyment, leave nothing to the feelings but disgust and pain."

Returning to the uncorrected examples, it may be observed, that in all cases of *proving too little*, we supply, mentally, an unwarranted datum; and we prove too little, because that datum must be proved before our conclusion will hold. Thus, in the first example above, the implied datum is, "He who never cheats or steals, is a man of every virtue." Grant this, and the conclusion is undeniable: but it cannot be granted, and hence the defect of having proved too little. It is indeed the error of our lives to take the *data* which our wishes, our passions, our prejudices suggest, before we have accumulated knowledge on adequate grounds. But the error,

be it observed, is always in the inductive process. In this process, the conclusion, which is properly and strictly called an *inference*, never follows *necessarily* from the premises, because it is never included in them, but is more or less probable up to the highest degree of certainty which our knowledge can reach; a certainty different *in kind* from necessary certainty, though it is the certainty from which flow all our necessary conclusions in the deductive process. Let us take the following instance: "This stone, which I have lifted from the ground, and let go, *has* fallen to the ground again: therefore, if I lift it again, and again let it go, it *will* again fall to the ground." The inference is not a *necessary* conclusion; but who, for a moment, doubts its certainty? That on which its certainty rests, is the wide, universal induction of particular facts, which, never having failed, the habit of our understandings leads us to accept as what never will fail.* In the deductive process, then, the datum which the foregoing inference supplies, has the utmost possible degree of strength,—namely, that "Every stone lifted from the ground and let go, having fallen to the ground, every stone that shall be lifted and let go, will fall." Very different in degree of certainty, are the data supplied by innumerable inferences, which we incautiously accept in the accumulation of our knowledge! Let us take a few by way of specimen:

"I am sure the man is a rogue, he has such an evil-looking face:" (i. e. He has an evil-looking face; *therefore* he is a rogue.)

"I have often observed that when it rains on Friday it also rains on Sunday: now yesterday was Friday, and it rained hard: *therefore* I am sure it will rain to-morrow."

"I got well while I was taking this drug: *therefore* it cured me."

"I have never begun anything on a Friday without being unlucky: *therefore* it is unlucky for any one to begin anything on a Friday."

"Everybody suspects John of having taken my purse: *therefore* he stole it."

* See, on this subject, the explanation afforded by Mr. James Douglas of Cavers, quoted in the note to Section 15, Chapter IV., page 152.

"This dish which people praise so much, is, to my taste, very nasty: *therefore* it is unfit for anybody."

"Miss A., according to my idea, is very ugly, though I hear her beauty so much cried up: *therefore* she is very ugly."

"This food is extremely grateful and nutritious to the people living within the tropics: *therefore* it is fit food for all people."

In all the foregoing examples, after the prior shape of the first, the word *therefore* is so used as to be palpable verbiage, and thus the fault is in each made more manifest than it would be, if couched in more common forms of speech. But the more it is concealed, the more cause has the young logician to be on his guard. He must remember that whenever he reaches an inference by too narrow an induction, his conclusion in the development of his knowledge, necessary as it will be from the datum he *assumes*, must at the same time be without value; for he will always, in such a case, *prove too little*. The conclusion he reaches will not be a logical, or, in other words, a metaphysical non-sequitur, but it will be a physical or real one.

12. PROVING TOO MUCH.—This will also be a real non-sequitur; because if our proof includes more than *can* be true, that which *may* be true will not follow from it. It may be true that the drug which John took when he was ill cured him; but when, in order to establish this presumed truth, we aver that the illness of Samuel, and that of Thomas, and that of William, were cured by the same drug, the several diseases being distinct and in some degree opposite in character, so that the same drug could not have had the same effect on all, we prove too much, and the proposition, "*Because* John took the drug, he got well," remains unproved by it. Hence the connecting word *because* is verbiage, and to correct the example, we must leave it out, and put *and* between the sentences.—The same fault of proving too much occurs in the following example:

"No one can live a happy life who pursues nothing but pleasure. For it is in the nature of things that when a man gives himself up to one pursuit, it becomes tiresome. Therefore, people who are always following pleasure, do not take delight in it, but pass a troubled, uneasy, dissatisfied life."

If it were generally true, as here said, that when a man gives himself up to one pursuit, it becomes tiresome, then would it be true that in giving himself up to the pursuit of wisdom, knowledge, virtue, or other excellent thing, the pursuit would grow tiresome; a conclusion which we know to be false. It is true only of pleasure, that when pursued to the exclusion of other occupations, it no longer produces the effect desired from it, but becomes disgust and pain.

In these last examples, as well as in those of the previous section, we supply, mentally, an unwarranted datum. The difference is, that, in the former cases, the induction on which we *assume* each datum, is too narrow, that is, it has not collected a sufficient number of facts to warrant the datum; while in the latter case it is too wide, that is, it has included more facts than there was just ground for. An example of the latter occurred in the last section but one; in which a reasoner is supposed, in the induction of his knowledge, to have included under the word *light*, things of a very different nature, so as to persuade himself that all light food is good for him. The argument proves too much; for it includes all food specifically light. Further experience may correct the error; and then he will be aware why his former conclusion was wrong, namely, that the argument included in the word *light*, proved too much, and therefore, for his true instruction and benefit, proved nothing.—A few more examples of the same kind, may be sufficient to show how liable we are to these conclusions which flow from *proving too much.*

"Liberty is a blessing to man;" (without limiting the circumstances that make it a blessing;) "*therefore*, let us impose no laws on these uninstructed men, but allow them to do whatever they wish."

"Pleasure is a good which I eagerly desire;" (without discriminating between pleasure which is enduring, and pleasure which must turn to evil;) "*therefore*, I will plunge into the sensual revelry which invites me on every side."

"Wealth procures great advantages;" (without discriminating advantages, which, by itself, it cannot procure;) "*therefore*, I will accumulate wealth in every way, and at all hazards."

"Rank and power are highly desirable;" (without discri-

minating the circumstances that make them so;) "*therefore*, I will scruple no means to raise myself to rank and power."

"To make others fear to injure me, is judicious;" (without regard to the fact that fear may keep all at a distance who would otherwise befriend me;) "*therefore*, I will never allow the least injury, or even the least slight, to remain unrevenged."

"A. B. is our representative in parliament;" (without adverting to the variety of opinion in those he represents, and the understood condition, that he who is a member of *parliament*, ought to consult the interests of the nation at large, as well as of his constituency;) "*therefore*, A. B. is, on this question, bound to vote as we, namely C. D. and E., direct him."

The conclusion which the reasoner attains in all these instances, though, by granting him in each the implied datum, it is logically (metaphysically) correct, is nevertheless really (physically) false; in other words, a *real* non-sequitur.

13. DISTINCTION WITHOUT A DIFFERENCE.—We now reach another of the general forms of verbiage, namely, *Error in distinction or division*, of which, one of the species is that named above. It may be sufficient to warn the learner against the fault above-named, by the following examples:

"I propose to consider, first, the evils which arise from procrastination; and then, the miseries we should avoid by performing our duties at their proper time and place."

The reasoner is guilty of verbiage in this distinction; or, if he really means different things, he must mean "first, the *evils* of procrastination; and then, the *benefits* of performing," &c.—The following are two other examples:

"Books are the receptacles of knowledge, and the depositories in which the collected wisdom of ages is treasured up."

"Docility is a readiness to receive instruction, and a willing obedience to those who teach."

In both these instances, the word *and* converts what follows into verbiage: leave it out, and the verbiage is corrected. We shall, it is true, then have, in each example, two expressions to the same purpose; but these will be used as two nouns are used in apposition, the one to make the meaning of the other better understood, without pretending to add any-

thing new to the meaning.—And, as adding what is no addition, always amounts to a distinction without a difference, so likewise does disjoining what is not distinct; as,

"To be neither merciful nor compassionate, is unsuitable to the condition of man."

Here, to avoid verbiage, we must say, "Not to be merciful—not to be compassionate, is unsuitable," &c.:—or, avoiding the repetition, "Not to be compassionate is unsuitable," &c.

In rhetoric, the earnestness of a speaker to make the most of a point, frequently produces a redundancy of words when nothing is added to the meaning .But in logic, such a redundancy is a fault, and, if very palpable, will not answer the purpose even of the rhetorician. The following sentences * are therefore faulty.

"This great politician desisted from, and renounced his designs, when he found them impracticable."

"He was of so high and independent a spirit, that he abhorred and detested being in debt."

"Though raised to an exalted station, he was a pattern of piety, virtue, and religion."

"His end soon approached; and he died with great courage and fortitude."

"He was a man of so much pride and vanity, that he despised the sentiments of others."

"Poverty induces and cherishes dependence; and dependence increases and strengthens corruption."

"This man, on all occasions, treated his inferiors with great haughtiness and disdain."

"There can be no regularity or order in the life and conduct of that man, who does not give and allot a due share of his time to retirement and reflection."

"Such equivocal and ambiguous expressions, mark a formed intention to deceive and abuse us."

"His cheerful, happy temper, remote from discontent, keeps up a kind of daylight in his mind, excludes every gloomy prospect, and fills it with a steady and perpetual serenity."

14. CONFUSION OF CROSS DIVISIONS.—A cross division is a division for some purpose, or on some principle, distinct from

* Taken from Murray's Exercises: a key for correcting the instances will be found in the Appendix.

another division. Thus, a bookbinder divides books into folio, quarto, octavo, duodecimo, &c.: a philosopher into poetical, historical, &c.: a philologist into Greek, Latin, English, French, &c. Now a logician would be guilty of a great error, if he were to confuse these several divisions by dividing books, in general, into the several species of poetical, historical, folio, quarto, Greek, Latin, &c.; for these are not divisions under one general head which includes them, but divisions under particular heads for special purposes. Suppose, therefore, that in a theme on History the writer should set out with a division into Sacred, Profane, Ancient, and Modern, he at once plunges into verbiage; because sacred history is not distinct from ancient, but happens to be included in it; and because profane history is not distinct from modern, but happens to include it. The divisions are nevertheless just, if he does not confuse the one set with the other. —We run into the same fault when we say,

"The human body is divided into the head, trunk, limbs, and vitals."

For the vitals are included in the head, or trunk, or both; and the division should be into "head, trunk, and limbs;" so that the vitals, if spoken of at all, may be taken in subordination to what includes them.

The following are other instances * in which the fault is sufficiently apparent:

"The things brought out to me were some square, some white, some artificial, some round, some blue, some natural, and some red."

"He was a man of great temperance and high birth, very generous, and quick to discover fraud, of extensive riches and exalted virtue."

"In treating of Poetry, I shall consider it under the heads of Epic, Classical, Ancient, English, Lyric, Written-in-Rhyme, Modern, Dramatic, and Written-in-blank-Verse."

"Men, as to constitution, temper, and habits, are either phlegmatic, gay, devoted to business, sanguine, gloomy, devoted to pleasure, or choleric."

Errors in detail which come under the general head of Confused Reasoning.

15. Saying other than is meant. The faults now to

* A key for correcting them will be found in the Appendix.

be noticed are faults of expression; being faults of reasoning only so far as faulty expression can scarcely fail to cloud and confuse the reasoning. We assume Logic to be the art of developing knowledge for our own security and satisfaction; but always with a view of applying our skill, ultimately, to the purposes of rhetoric, that is of informing, convincing, and persuading others. Now if we say other than we mean, although what we mean may, in some sort, be present to our own understanding, and although others may not altogether mistake what we mean; yet there will, on both sides, be a degree of confusion, which it is among the objects of logic to prevent. The following examples, therefore, though faulty only in expression, are properly deemed illogical.

"Ambition is so insatiable, that it will make any sacrifice to attain its objects."

"As to be content with what we have, is to be truly rich, it follows that no covetous man is truly rich."

"Solon was a wise legislator; for all wise legislators suit their laws to the genius of their nation."

Each of these examples exhibits a *non-sequitur* in expression; but it is in expression only. The meaning which the reasoner designs to convey, and that which, in spite of the faulty expression, the hearer or reader receives, is the following: "Ambition is so insatiable, that, however much it gets, it will still desire more, and make any sacrifice to attain it." "As no one is truly rich but he who is content, it follows that no covetous man is truly rich." "Solon was a wise legislator; for all are wise legislators who suit their laws to the genius of their nation."—The expression in each example may be made correct in another way, namely by foregoing the logical connection understood between the facts, and stating them as things that only happen to come together; as "Ambition is insatiable: it will make any sacrifice to attain its objects." "To be content with what we have, is to be truly rich: no covetous man is truly rich." "Solon was a wise legislator: he and all other wise legislators suit their laws to the genius of their nation." This way of correcting a non-sequitur is left to our choice in cases like these, when the fault was only in the expression, and not in point of fact: but we have no choice—we must take the latter mode, when the non-sequitur is of the latter kind; as "All vegetables grow; an animal

grows:"—we cannot connect these by any logical consequence; they must be left in their independent state, or joined in expression as we usually join things that happen to come together; for example, "All vegetables grow, and so does an animal." Again in proposing to join *round* and *square*, we find them irrelevant to any conclusion,—in other words they will not make sense, and therefore instead of saying *a round square*, we must leave them independent of each other's meaning, and say *a round, and a square.*—Returning now to examples in which the non-sequitur is only in the expression, we may indicate to the learner, as specimens in point, all those which were furnished in the Manual of Grammar (pages 92, 93,) to discriminate between grammar and logic. Thus, "He that was dead, sat up:"—Each being taken strictly, the two members of this sentence cannot unite and imply one sense: but the former member is neither meant nor received according to its strict import; and therefore it does unite with what follows. The same thing might be shown of all the other examples at the pages referred to; yet they all come under the censure of confused reasoning, (except one or two vindicated by rhetoric,) because in all of them the reasoner *says other than he means.*

It must be further borne in mind, that not only should an expression convey none other than is meant, but should likewise be free from a double meaning, though one of the meanings may be the one intended. Sometimes, as in the case of pretended prophecy, there may be a purpose in equivocation; but with such a purpose, logic is not concerned; and in correcting a few more examples* continued from the Manual of Grammar, the student will take care that each sentence shall convey one, and only one meaning.

"Pyrrhus the Romans shall I say subdue."

"The duke yet lives that Henry shall depose."

"The rising tomb a lofty column bore."

"And thus the son the fervent sire addressed."

"And all the air a solemn stillness holds."

"He was mounted upon a hot and fiery steed, which his aspiring rider seemed to know."

* Some of them are from Murray's Exercises: a key for the correction of each, is furnished in the Appendix.

"If this day happen to be Sunday, this form of prayer shall be used, and the fast day kept the next day following."

"A collection is making to protect and uphold such electors as refused, contrary to their desires and consciences, to vote for A. and B. regardless of threats, and unmindful of intimidation."

"He was more than commonly civil to me."

"You can only arrive in time by starting early."

"Though he had been charitable to others, he found but a few friends in his own extremity."

"Persons not having an income amounting to a hundred and fifty pounds a year, are not liable to the income-tax."

"The Romans understood liberty at least as well as we."

"Theism can only be opposed to Polytheism or Atheism."

"These are not such designs as any man, who is born a Briton, in any circumstances, in any situation, ought to be ashamed or afraid to avow."

"The eagle killed the hen, and eat her in her own nest."

"It has been said that not only Jesuits can equivocate."

"You will not think that these people, when injured, have the least right to our protection."

"Solomon, the son of David, who built the temple of Jerusalem, was the richest monarch that reigned over the Jewish people."

"Solomon, the son of David, who was persecuted by Saul, was the richest monarch of the Jews."

"Lisias promised his father, never to abandon his friends."

"The Divine Being heapeth favour on his servants, ever liberal and faithful."

"Every well-instructed scribe is like a housekeeper, who bringeth out of his treasure things new and old."

"Dryden makes a very handsome observation, on Ovid's writing a letter from Dido to Eneas, in these words."

"Imprudent associations disqualify us for the instruction or reproof of others."

16. NOT DISTINGUISHING DIFFERENT SENSES OF THE SAME WORD. This fault is the opposite of one which was ranged under the general head of Verbiage; namely, a distinction without a difference. Our present title might be, a difference without a distinction; but it will be better to limit our examples to those which exhibit the fault in the particular way

described above, namely, by not distinguishing different senses of the same word. Be it observed, however, that we are concerned with this fault, only so far as it *confuses* the reasoning, and not with that effect which was the subject of a previous section, where it is shown that the reasoner, in the induction of his knowledge, is led to include under the same word, as things of the same nature, those that are essentially distinct; and hence, though he reasons rightly in the deductive process, to come to a wrong conclusion, because his previous knowledge is wrong. (See Sect. 12, at page 201, where the word *light* is alluded to.) In the following, and other similar examples, the reasoning, independent of the words, is correct; but the expression makes it confused:—

"To write well is an accomplishment of the first importance, because we form an immediate judgement of a person's education from the manner in which he writes. If we receive from any one a letter scarcely legible, scrawled rather than written, we hardly think well of the writer's education, though perhaps the sentiments may be tolerably expressed. But if the language is ungrammatical, and all the sentences confused; in short, if there appears a total deficiency of skill in the art of writing, we immediately conclude that the person is altogether ignorant and illiterate."

Here *bad writing* in the sense of *bad manuscript*, and in the different sense of *bad composition*, are confounded. The intended reasoning is made clearer thus: "To write a fair hand is an accomplishment of much importance, because we often form an immediate judgement of a person's other acquirements from the hand he writes. But it is of much more importance to obtain a correct and graceful style of expression. The one is a manual, the other, a mental art. If we receive from any one a letter scarcely legible, scrawled rather than written, we hardly think well of the writer's education. But if the language is ungrammatical, and all the sentences confused; in short, if there appears a total deficiency of skill in the art of composition, we," &c.

The following is another example:

"It is better to be sensible than witty. A witty man may raise admiration, but he seldom gains love. A sensible man, though perhaps not much listened to at first, gains constantly increasing attention, till, at last, he is consulted by all,

and loved by all. To be sure it may be a disadvantage to be too sensible; for instance, to be too sensible to reproach, or ingratitude, or neglect. But the very quality of being sensible will enable the person to surmount this failing, and render him superior to the injustice of the world."

Here, there is confusion between *sensible in understanding*, and *sensibility on account of what others do or say*. Correct part of the example thus: "To be sure, a sensible person is liable, like others, to incur unmerited reproach, ingratitude, or neglect. But the quality of being sensible, will enable him to see such dispositions in their true light, and render," &c.

A third example may be added:

"My friend Brown was the strongest man I ever knew, and yet sometimes the most timorous. In body and limb, he was so nervous, that he could overcome, in wrestling, men who were twice his weight; and yet, if he had to pass through a church-yard at night, his nervousness was such, that he would shake all over. So we see that the strongest frame does not protect a man from superstitious fears."

The confusion here is between *strong in bodily nerve*, and *liable to fears which affect the nerves*. Instead of saying "his nervousness was such," say, "his timorousness was such," and the example will be corrected.

17. NEGLECTING THE MEANS OF DISTINCTION AND DIVISION WHICH GRAMMAR PROVIDES FOR THE CLEAR DEVELOPMENT OF THOUGHT BY WORDS.

The means which grammar provides, are sentences periodic and non-periodic; paragraphs, otherwise called sections; and parts made up of paragraphs or sections. All that grammar looks to in these, is the accuracy of the outward structure. It is for logic to take care that the structure has its foundation in the purposed development of thought, so that there shall be union where that purpose requires union, and distinctness, where it requires distinction. *We must not overload a sentence, or paragraph, or higher division of discourse, with what cannot be readily apprehended as a part of its purpose.* Hence the young theme-writer fails in the examples given hereunder:—

Example 1. "Courage leads us to face danger without fear; fortitude, to bear calamity without complaining, and is a virtue all ought to possess; for being, as we all are, born to trouble, afflictions of some kind must fall to our lot."

The proper business of the former part of this sentence appears to be, if clearly settled in the writer's intention, to define fortitude in contradistinction to courage; and that purpose being completed, the sentence should have ended, namely, at the word *complaining*. What follows should be not only in a different sentence, but should begin a new paragraph with the word *fortitude* repeated as nominative to the verb *is*. For it appears that the reasoner, having made his way clear by defining his subject, is about to consider its necessity, &c.

Example 2. "The high-born, the rich, and the beautiful, are peculiarly exposed to flattery; and the sweet incense is offered to them in abundance, by those whom all good men justly abhor for their deceitful servility."

In this sentence, the reasoner proposes to show the dangers arising from flattery which attend birth, wealth, and beauty, and also to show the baseness of flatterers. These purposes should be enunciated distinctly; they should not be attempted even in the same paragraph. Let us say that the first paragraph shall confine itself to the former object, and begin thus: —"The high-born, the rich, and the beautiful are peculiarly exposed to flattery. Their favours are eagerly sought by multitudes, and every stratagem is employed to attain them. The sweet incense is, therefore, offered in abundance, and is eagerly inhaled, till the victims intoxicated by the fumes;" &c. In this strain, or something like it, let us carry out the former of the two purposes. The development of thought being, as to this point, sufficiently extended, let the development as to the next point, have also its appropriate paragraph, beginning perhaps thus:—"But the flatterer is justly abhorred by all good men; for the art he uses is deceit and servility. To gain his own ends, he wears a constant mask, and belies the real sentiments of his breast. He offers what he knows must poison the mind; a worse effect than," &c.

Example 3. "We may therefore come to these conclusions, —that perfect bliss is not to be found in this life; that our felicity consists in the pursuit, much more than in the attainment of our wishes; and that happiness without alloy is reserved for another state of being: *as the most fortunate of men, when they have reached all they once desired, are still in want of something to complete their happiness.*"

If the reasoner had previously stated arguments sufficient

to infer the conclusions, the after-thought in italics is out of place. It is either superfluous; or it ought to have been brought forward among the previous arguments.

*It belongs to rhetoric to bring forward arguments in such order, and with such outward admonitions of order, as may best fit them for reception, and clear understanding, as regards the persons addressed. In logic, *that* is the best order, which the reasoner finds most effectual for the clear development of his *own* knowledge to *himself*. What this may be, depends upon his habits of thinking. Some order he must have, or the development of his knowledge will be confused and valueless. He must fix points for development; and each of these being pursued to a satisfactory extent, he must then bring them all to issue in some one general result, which, during the progress of each, he has kept steadily in view. A reasoner whose exercises in logic are thus conducted, will, when he is required to be a rhetorician, find little difficulty in dividing an extensive discourse into parts subordinate and principal, whatever be the names he chooses to employ, sections, chapters, books, &c.; or other names, or external indications of division without formal names,—he may choose to employ. To interfere, by express directions, with this liberty of choice, would be, to curb originality in the conduct of thought; and to attempt to teach those who have no originality, would be, to show how fields may be divided, which produce no fruit worthy of division.—Our next general head, *Ignoratio elenchi*, will add something to the instruction which the present head proposed.

Errors in detail which come under the general head of Disjointed Reasoning.

18. Omitting necessary propositions. This is one of the forms of *ignoratio elenchi;* a phrase which may mean, having no proposition in view which the arguments in progress are intended to establish; or forgetting the proposition which has been laid down to be established. Both of these are the errors of a learner who has collected his knowledge by efforts of memory, and can perhaps clearly recover it in parts as his memory happens to serve him; but who has never

* See the second foot note, page 180.

meditated on his knowledge, so as to make it completely his own. Knowledge, in all cases, is the apprehension of relations; but these relations are separately innumerable; and many of them may, in their separate state, exist clearly in a mind of inferior power or industry. To collect them under higher and higher relations, is the effect of what we call *thinking;* a process which brings the separate relations under higher ones that include them. There are no limits to this process; and once begun, we may hope it will continue. All that can be proposed in a work of instruction like this, is to indicate the ordinary modes of failure, one of which is specified by the present title. An example is afforded by the following extract from a learner's theme, in which several propositions are required to make the train of thinking clear.

"The treasures of wisdom, like the precious ores, lie not on the surface to be picked up by the casual traveller, but must be sought for with pains and labour. Books and teachers may show how and where the treasure is to be sought, but it can be gained for us by none other than ourselves,—by our own perseverance, our own patient examination, our own frequent reflection. If the limbs were muffled up, they would soon lose their strength: and so the faculties of the mind, if not employed, and directed to the acquisition and arrangement of knowledge, will fail in their natural acuteness, and become incapable of any steady and useful effort. In solitude we may learn with what wisdom the Creator has fashioned even the least of his works:—in society we may observe characters and manners, and grow wise in the knowledge of mankind."

The correction of the example will show the importance of attending to the caution which heads the present section. (Title:) "On Study."—(First division or paragraph:) "*Knowledge cannot be obtained without study.* The treasures of wisdom, like the precious ores, lie not on the surface to be picked up by the casual traveller, but must be sought for with pains and labour. *And the labour must be our own: we cannot here enjoy the profit while others have the toil.* Books and teachers may show how and where the treasure is to be sought, but it can be gained for us by none other than ourselves,—by our own perseverance, our own patient examination, our own frequent reflection."—(Second paragraph:)

"*Let us further observe that study is as necessary to the mind as action is to the body.* If the limbs were muffled up, they would soon lose their strength: and so the faculties of the mind, if not employed, and directed to the acquisition and arrangement of knowledge, will fail in their natural acuteness, and become incapable of any steady and useful effort."—(Third paragraph:) "*Nor is it in books alone that we may find the means and opportunity of study.* In solitude we may learn with what wisdom the Creator has fashioned even the least of his works:—in society we may observe characters and manners, and grow wise in the knowledge of mankind."

It may be necessary to add, that the divisions or paragraphs require not to be named, if the manuscript distinguishes them in the usual way; and that italics are used above only to call attention to the propositions which are supplied.

19. PROPOSING TOO MUCH OR TOO LITTLE. A proposition ought not to contain more than the arguments are intended to prove; since, in the mind of the reasoner, it is, or ought to be, the conclusion from those arguments. Suppose, for instance, that the theme-writer intends, in one division of his exercise on Astronomy, to dwell upon the sublimity of its objects, he ought not, in that division, to say that "astronomy is a noble, an interesting, and a *useful* science," but only say that "it is sublime, noble, and interesting." Yet the omission of the word *useful*, would be a fault at the commencement of the theme, in proposing *all* the points which the reasoner intends to consider; since the *utility* of the science, it is presumed, would be one of the points.

A writer should be careful of even seeming to promise too much; and therefore, in a theme, all high sounding transitions or introductions should be avoided. Suppose, for instance, that the theme-writer, after dwelling on the sublimity of Astronomy, were to proceed thus:

"Having thus described and illustrated, to the best of my ability, the sublime thoughts, and correspondent emotions, to which the noble science of astronomy gives birth, I shall now proceed to show, that this branch of study is not less useful to man, than it is sublime and interesting."

This would be a transition of disproportionate length to suit a brief theme. The writer needs only say, "But the

study of astronomy is as useful as it is sublime;" and then proceed to show its uses.

20. DEVIATION FROM THE PROPOSITION. This fault occurs when the reasoner lays down a proposition, which he follows up by arguments that do not especially belong to it, but to some other proposition, which embraces both the first proposition, and the others. His reasoning, therefore, may not be wrong, if referred to something in his mind which he leaves unexpressed, but is irrelevant with regard to the proposition with which he starts: for example:

"Anger has been called a short madness; and people of the weakest understandings are most subject to it. It is remarkable that when a disputant is in the wrong, he tries to make up in violence, what he wants in argument. This arises from his pride. He will not own his error; and because he is determined not to be convicted of it, he falls into a passion."

There may be truth in all that is here said, but it is not truth to the purpose,—at least, if the commencing proposition is meant to indicate the purpose. To follow up that purpose, the reasoner should have proceeded in the following manner, or in some manner like the following:

"Anger has been called a short madness. To be convinced that the appellation is just, let us look to the effects of anger. It disturbs a man's judgement, so that he inflicts an injury on his dearest friend, whom, the next moment, he loads with caresses. It makes him run headlong into dangers, which, if his mind were clear, he would be the first to see and avoid. It is true that anger does not always disturb the mind to this degree; but that it disturbs the mind to a degree proportionate to its violence, is certain; and, therefore, it may be justly denominated a madness."

21. DISCOURSING SHORT OF THE PROPOSITION. This fault arises from regarding a subject in some partial point of view which happens to be familiar to the reasoner, instead of regarding it in the extent implied by the term or terms proposing it. Suppose, for instance, that *Education* is the subject proposed to be developed, and that the reasoner is a young female;—she would ill suit the arguments to so general a subject, although she would correctly proceed according to her limited experience, if she began thus:

"My opinion of education is this, that reading, writing, and arithmetic, are the groundwork, and that English grammar comes next in importance. A child ought to begin French very early, because the pronunciation of that language is difficult in maturer years. I would also recommend attention to the accomplishments of dancing, drawing, and music; and, above all, I would not have needle-work neglected."

It is evident that such a detail does not meet the subject in the universal sense in which it is proposed. But how can we expect, from a reasoner, the development of more knowledge than experience has provided? Yet it may be useful to point out, to such a reasoner, that if the subject is proposed in its widest sense, the arguments should be equally comprehensive: for instance:

"My opinion of education is this, that it is then only just, when it fits the individual for his duties. For this purpose, both the mind and the body stand in need of discipline. The mind must be made acquainted with the duties of life, and instructed in all science necessary to their performance; and the body must be formed to whatever habits will most effectually conduce to the same end."

All this is applicable, whether we speak of a male or a female, a prince or a peasant, a member of civilized society, or a savage who lives by hunting and fishing; and the arguments, as to their extent, therefore agree with the proposition. Yet a writer is not bound to treat a subject thus generally: he may choose a special view, because he feels competent to no other. All that is required, in such case, is a statement, at the beginning, of what he intends—a proposition which limits the general subject, and saves the arguments from the charge of irrelevancy. Thus, the female reasoner in the example furnished above, would have been free from censure, had she begun thus:

"Of education, generally, I am incompetent to speak. I can but point out, from the experience I have had, what I think necessary to be taught to young females, raised, in our country, above the necessity of manual labour. They must learn reading, writing, and arithmetic; and English grammar comes next in importance. A child ought," &c.

22. DISCOURSING WIDE OF THE PROPOSITION. This fault arises from an indistinct view of the subject. Hence the

writer, instead of using arguments which agree with the proposition, and with nothing else, employs such as agree with some general proposition under which the particular one is included: he may be compared to a person that shoots toward the mark, but does not take aim precisely at it.

Example 1. "Prudence is a sure road to reputation. They who are obedient to their parents and teachers when young, obtain accomplishments which are of the highest value in maturity. As they advance in years, they fear God, honour the king, and do as they would be done by. By this manner of conduct, they may sometimes miss immediate advantages, such as short-sighted, cunning people would snatch at; but they gain what is much better, the approbation of their own hearts, and, finally, the respect and applause of mankind."

These arguments do not belong to *prudence* in particular, but to *virtue* in general, and would accordingly be suitable to this proposition,—"Virtue is the surest road to reputation. They who are obedient," &c. Arguments suitable to the other proposition, will be such as these:

"Prudence is a sure road to reputation. A man whose abilities are of a common, or even of an inferior order, but who determines cautiously, and chooses the proper time for all he says and does, will advance with certainty, though perhaps slowly. The chief cause of his progress will be, the confidence he secures: for all feel the value of *his* advice, assistance, and agency, who knows exactly when to speak, and when to be silent, when to act, and when to cease from action."

Example 2. "Disappointments are a great part of our portion in this life. In our infancy we are liable to dreadful accidents, and must trust entirely to others for safety and preservation. As we grow older, we think we can take care of ourselves, and we become confident and presuming. But almost every day brings with it some greater or less misfortune, and thus we are gradually taught not to depend entirely upon ourselves, but to put our chief trust in God."

To keep to the point, the reasoner should have proceeded thus: "Disappointments are a great part of our portion in this life. The wishes and hopes even of our childhood are as frequently checked as gratified; but this may seem inevitable, because we have not yet acquired sufficient experience to

form proper expectations. As we grow older, we think our better judgement enables us to calculate less erroneously, and we become confident," &c.

An indistinct view of a subject is often betrayed by a single expression. Suppose the theme-writer is treating of *melancholy*;—in urging the duty of not giving way to it, he should not say, "We are bound to bear the evils of life with *patience*," but "with *cheerful resignation*." On the other hand, if he is treating of *fretfulness*, he ought to argue that we are bound to bear the afflictions of life with *patience*.

CHAPTER VI.

THE SYLLOGISM OF FORMAL LOGIC.

1. We deem some account of this syllogism to be expedient, not because it can be of the least practical value to our student, but because the technical language pertaining to it, has, from time immemorial, been associated with the prevailing notions of logic, and we would not have our student quite ignorant of what, through the force of habit, is wont to be thought necessary in a work upon Logic. And that the account given for this purpose may be clearly understood in contradistinction to the doctrine held in this Manual, we shall conclude the chapter with a recapitulation of the leading principles of our doctrine.

Some Account of the Syllogism of Formal Logic.

2. The Syllogism which is worked by *extremes* and *middle term*, is constructed under a persuasion that the act of the intellect by which, from two things known, we reach a third, is a voluntary act; and that, in the deduction of our knowledge, real or assumed, we can, with relation to this knowledge, come to wrong *conclusions*, as, in the induction of it, we can wrongly apply what we know, to interpret what we do not yet know,—in other words, can make wrong *inferences*. The persuasion is completely erroneous; but it is one into which we almost inevitably fall, if we embrace the ordinary or vulgar notion of the way in which language is the exponent of thought. The syllogism of Aristotle is built upon the common notion: let us then see what this notion is.

3. The vulgar notion of thought expressed by language, is, that the one represents the other with a perfect correspondence of part to part, and a correspondence of operations in joining the parts. Acting on this notion, we shall, when we desire to ascertain what exists or what is going on within the mind, examine what exists outwardly, and how we operate with what so exists. Proceeding upon this principle, altogether a false one, we shall, in the first place, arrive at *ideas*, as the presumed mental originals of single words, and at an appropriate faculty of the mind, by which these ideas, primarily received into the mind from the things of sense, are revived by words; which faculty is called *simple apprehension*. But words, without being formed into sentences, can be joined by certain grammatical particles; and we must again look into the mind for the correspondent originals. Hence the division of *apprehension* into *complex* and *incomplex*, the latter being the apprehension of ideas signified by single words, the former by words united so as not to be sentences. The next operation of language is the joining of words into sentences. This is done by verbs. But verbs are many, while the effect of a verb is always the same. We have therefore to find a verb, which shall produce this common effect, without embarrassing the outward operation with more than it produces. Such a verb is found in what is called the copula, *is*. This verb, placed between the signs of two ideas, is supposed to indicate another operation of the mind called *Judgement*; for, admitting that the one idea agrees with the other, the judgement pronounces that they do agree, and the verb *is* presents itself as the sign of that verdict. But they may not agree; and we have further to find, in the outward operation, a sign correspondent to the opposite determination of the judgement; which, if found, we are to take as an evidence of a correspondent mental act. The sign required is found in the grammatical term *not* or *no*.—Advancing now from words formed into sentences, to sentences formed into discourse, we have again to ascertain, from the outward act, the (presumed) correspondent mental operation. Why should propositions which the judgement pronounces to be true, because it has compared the ideas in each, and affirmed or denied that they agree,—why should these necessitate another proposition which is true because the others are true? This is the problem which the syllogism

undertakes to solve, and in taking up this problem, we enter upon a third operation of the mind, called *Reasoning*.

4. To solve this problem in the Aristotelian way, we must suppose that, in innumerable cases, the judgement is unable to pronounce, of two ideas, either that they agree or disagree. In this difficulty, the reason comes forward, and provides a third idea by which to measure these two. What really does take place in every act of the intellect, here comes in to give plausibility to the Aristotelian doctrine, namely, the occurrence of premises, which are always two, and the inevitable intellection from them.* But in the doctrine of the syllogism this is proposed to be accounted for, not as an inevitable, but a voluntary act. We have to prove that two ideas agree or disagree, when the judgement cannot pronounce that they do so; and, as above-said, reason is supposed to provide us with a third idea. With this idea each of the two ideas is measured, and if each idea agrees with the third, then Reason determines that they agree with each other; but if either of them disagrees with the third idea, then it determines that the two disagree. The mental process here described, if manifested with accurate correspondence outwardly, requires three propositions, two in which the ideas whose agreement or disagreement is sought to be proved, are severally measured with the idea signified by the middle term; and one in which, consequently upon the two-fold comparison, the two extremes, as they are called, receive from this reasoning process, the judgement of agreement or disagreement. It is, of course, admitted by the Aristotelians, that sentences united into dis-

* The doctrine of the Aristotelian syllogism has the effect of the juggler's art, who talks to his audience of something which he seems to be doing, yet is not doing, in order to call off their attention from his real proceeding: the difference is, that the ordinary juggler does not deceive himself, and the Aristotelian does. Dugald Stewart indeed intimates that the prime juggler knew what he was about; but this is hardly credible; and with regard to his followers, nothing can be more conscientious than their belief in the truth of what they teach: see, for instance, Dr. Whately, *passim*. The fact is, that they feel the true ground of the syllogism even while describing the false one. And so capital is the trick, that Locke and others, though they see it must be a trick, are not able to describe how it is done. Locke merely says, with characteristic simplicity and plain English sense, "God hath not been so sparing to men to make them barely two-legged creatures, and left it to Aristotle to make them rational. He hath been more bountiful to mankind than so."

course do not always appear in the forms of syllogism; but it is insisted upon, that *their* syllogism, namely, the syllogism which works by extremes and middle term, lies concealed under every operation of language transcending the representation of ideas by single terms,—the representation of ideas by terms joined by particles not being verbs,—and the junction of terms by means of a verb into a sentence; which last mentioned fact yields what they call a proposition in outward form, and a judgement when spoken of as the correspondent operation in the mind. But this is not the whole of the matter: The doctrine thus briefly described, carries with it much other doctrine, both in the preliminary stages, and in the syllogism which results from them. First, for ideas, we have the doctrine of the *Categories* or *Predicaments*, which are ten in number; *Substance*, *Quantity*, *Quality*, *Relation*, *Place*, *Time*, *Situation*, *Possession*, *Action*, *Suffering*. These are presumed to contain, as *summa genera*, all our ideas; in other words, all the subject-matter of judgement and predication. Passing to the next stage, that is to the operations of the Judgement upon these materials, we have a division into *subject* and *predicate*, the term expressing an idea concerning which a judgement is to take place being called *a subject*,—the term expressing the idea affirmed or denied to agree with it, being called *a predicate*. Hence, ideas and their correspondent terms, when they are to be predicated, are called *predicables;* and the doctrine is, that they can be predicated as *genus*, or as *species*, or as *difference*, or as a *property*, or as an *accident*. Thus *animal*, which belongs to the category substance, can be predicated as *genus* of the subject, man; (also belonging to the category, substance). Thus *rational*, belonging to the category quality, can also, as a *difference*, be predicated of the subject, man. Thus again *rational animal*, now again belonging to the category substance, can be predicated, as his *species*, of the subject, man,—the difference and the added genus making up the species. Thus, once more, *risibility*, which belongs to the category quality, can be predicated as a *property* of the subject, man. And thus, lastly, being *young* or *old*, *tall* or *short*, *rich* or *poor*, *digging in his garden*, or *asleep in his bed*, and so forth, can be predicated as an *accident* of the subject, man. Such doctrine under the first and second of the assumed three operations of the mind, fur-

nishes the ground for constructing the formal syllogism; by which, as already said, when the judgement cannot pronounce on the agreement or disagreement of two ideas, it is proposed to *demonstrate* their agreement through the instrumentality of a third idea. To a demonstration an axiom is necessary; and the axiom of the formal syllogism is the *dictum de omni et nullo;* whose purport is, that *whatever is affirmed or denied of all the members of a class, may be affirmed or denied of every member of it;*—where, be it observed, the word *all* is required to be understood distributively, and not collectively; so that a less equivocal statement of the axiom is this—*Whatever is affirmed or denied of every member of a class, is affirmed or denied of every member of it;* as pure an axiom, no doubt, as another often referred to, namely, *Whatever is, is.* In our logic, we call this an identical proposition, and consider it to be verbiage. But let us accept them both as axioms, and pass on to other doctrine necessary to the construction of the formal Syllogism. The terms expressing the ideas whose agreement or disagreement is to be demonstrated, are to be received under the names of *minor*, and of *major* term, the former being the subject, the other the predicate; as, for instance, in saying *Kings are mortal*, *Kings* is the minor, and *mortal* the major term. Then we have a difference of propositions with regard to their *quality*, and to their *quantity;* a proposition which *affirms* the agreement of the two ideas being said to differ in *quality* from one which *denies* their agreement; and a proposition which affirms or denies *universally* of a class of things, being said to differ in *quantity* (and this is, of course, a difference in *our* logic also,) from one which affirms or denies only concerning *some* of a class; for instance, it is one thing to say, "All your servants are rogues;" and another to say, "Some of them are rogues," or "Some one is a rogue." Another necessary doctrine towards the construction of the formal syllogism, is that of the *distribution* or *non-distribution* of terms. The purport of this may be indicated by an example. If we say that "Every mare is a horse," it does not follow that "Every horse is a mare:" but if we say that "No goose is a swan," it does follow that "No swan is a goose." Accordingly, it is one of the principles in the doctrine of the formal syllogism that the minor term of an affirmative proposition is *distributed*, that is, it in-

cludes all that it can be applied to; while the major term is *undistributed*, that is, it does not include all the things it can be applied to; as, for instance, in saying "Every mare is a horse," the term *horse* understood only of those horses that are mares, does not include all that the term *horse* can be applied to: but with regard to a negative proposition, both the major and the minor terms are distributed. And now with the apparatus of the syllogism, and its doctrine in hand, let us proceed with the demonstration it proposes. When we have to show, on the principles of the science, that two ideas agree or disagree, we must hunt among the categories for a suitable third or middle term, with which to compare, first the major, and then the minor term:—the proposition arising out of the comparison of the middle with the major term, is then called the *major premise;* and that arising out of the comparison of the middle with the minor term is called the *minor premise.* If, in these two acts of comparison, the *judgement* determines an agreement between the major term and the middle,—and again between the minor term and the middle,—then *reason* comes in, and affirms, in what is called the conclusion, the agreement which was to be demonstrated between the terms that have been thus measured with the middle term:—but if the *judgement* determines, in its two acts of comparison, that either the major or the minor term, does not agree with the middle term, then *reason* determines, in the conclusion, what, as an alternative, was to be demonstrated, namely, the disagreement of the terms that have been measured with the middle term; in other words, that the major of the conclusion must be predicated negatively of the minor. But the conclusion arrived at through this process, cannot, after all, be depended upon, except under the safeguard of laws growing out of the doctrine of the quality and quantity of propositions, and the distribution or non-distribution of terms. Thus, for instance, we are required to distribute the middle term once at least in the premises; a failure in which, is called an *undistributed middle.* Thus, also, we are required to distribute the major or the minor term in the premises, if we propose to distribute it in the conclusion; a failure in which, is called an *illicit process of the major* or *of the minor*:—either of which failures vitiates the demonstration. Prepared, in this manner, to distinguish between a legitimate and an illegitimate

syllogism, we come next to consider in how many ways three propositions can be constructed out of *extremes*, that is, out of the minor and major terms which are to form a conclusion when we reach it, and the *middle term* by which we propose to reach it. Now, disregarding the laws concerning the quality and quantity of propositions, which laws determine what forms are to be accepted as legitimate syllogisms, and what are not, we have no fewer than 256 of these triads of propositions, out of which, only 19, by virtue of the laws referred to, will be legitimate syllogisms; that is, syllogisms, which the dictum of Aristotle, referred to as their axiom, will be found to warrant. To make this understood by *our* scholar, the technical expedients in the doctrine of the formal syllogism, depending on the quality and quantity of propositions, and the relative situation of the three terms in the premises of a syllogism, must be further explained.

5. Propositions, in the doctrine of formal logic, are of four kinds; 1. Universal affirmative, signified by the letter A; as, "Every man is mortal;" "Every mare is a horse:" Universal negative, signified by the letter E; as, "No man is sinless;" "No goose is a swan:" Particular affirmative, signified by the letter I; as, "Some men are rogues:" Particular negative, signified by the letter O; as, "Some men are not rogues." These varieties of quality and quantity in the propositions, produce, when the propositions are formed into syllogisms, what are called the different *moods* of the syllogisms. Now the four symbols, A, E, I, O, and consequently the sorts of propositions that answer to them, can be varied by threes in 64 ways, so that we have 64 triads of propositions without any change of the relative situation of major, minor, and middle terms in each triad; which situation is this, that the middle term is subjected in the major premise, and predicated in the minor one; and, of course, the minor term, by its name, (see the previous section) is the subject of the conclusion, as the major term is its predicate. When, in forming a syllogism, the three terms are thus disposed relatively to each other, the syllogism is said to be in the *first figure*. There are three other figures. In what is called the *second figure*, the middle term is predicated in both premises; in what is called the *third figure*, it is subjected in both premises; in what is called the *fourth figure*, it is predicated in the major premise, and subjected in

the minor. And as in the first figure, we can have 64 triads of propositions, making up apparent syllogisms of so many different moods, we can, in all the figures, have four times 64, that is, as already stated, 256. But the laws of the syllogism exclude in the first figure all but four moods, A A A; E A E; A I I; and E I O: in the second figure all but four, E A E; A E E; E I O; and A O O: in the third figure, all but six, A A I; I A I; A I I; E A O; O A O; and E I O: and in the fourth figure, all but five, A A I; A E E; I A I; E A O; and E I O:—thus leaving, as above stated, out of 256, only 19 forms which are legitimate syllogisms; that is, which afford the demonstration proposed by the science.

6. In order that the nineteen legitimate forms of syllogism may be remembered by appropriate names, the symbolic letters of each are formed with consonants into words, otherwise meaningless,* and the words are put together so as to exhibit the following imitation of Latin verse:

Fig. 1. BARBARA, CELARENT, DARII, FERIOque prioris.

Fig. 2. CESARE, CAMESTRES, FESTINO, BAROKO, secundæ.

Fig. 3. TERTIA, DARAPTI, DISAMIS, DATISI, FELAPTON, BOKARDO, FERISO, habet: quarta insuper addit

Fig. 4. BRAMANTIP, CAMENES, DIMARIS, FESAPO, FRESISON.

Hence, for example, to say of a syllogism that it is in *barbara*, is to say that it is in the first figure, with a universal affirmative conclusion arising out of universal affirmative premises:† to say that it is in *camestres*, is to say that it is in the second figure, with a universal negative conclusion arising out of a universal affirmative major premise, and a universal negative minor premise:‡ to say that it is in *fresison*, is to say that it is in the fourth figure, with a particular negative conclusion arising out of a universal negative major premise, and a particular affirmative minor premise.§—It is to be

* There is a significant purpose in the added consonants, relating to the conversion of syllogisms; but considering the whole business to be mere trifling, we may be excused from a further detail.

† As, "Every man is mortal; every king is a man; therefore every king," &c.

‡ As, "Every true philosopher is one who counts virtue a good in itself; no advocate of pleasure is one who accounts, &c., therefore, no advocate of pleasure is a true philosopher."

§ As, "No fools are thoughtful; some men are thoughtful; therefore, some men are not fools."

remarked, before leaving this account of the formal syllogism, that a syllogism in any of the last three figures, can, under the safeguard of certain rules, be converted into a syllogism of the first, which is deemed the only perfect figure. For instance, the syllogism in the fourth figure exemplified in the third note below, can be converted into *Ferio;* as, "Thoughtful men are not fools: Some men are thoughtful: Therefore, some men are not fools." The fourth figure does not appear in Aristotle, but was added by his followers.

Recapitulation of the Leading Principles in this Manual of Logic; as opposed to the Principles on which (as explained in the foregoing Account) the Syllogism of Formal Logic is based.

7. In our logic, we presume not to inquire, much less to demonstrate, how or why an intellection takes place. We esteem it a fact, which can no more be accounted for than the fact of a sensation; though we estimate these facts as things in their nature different: we deem, for instance, that a sensation is one thing, and that the knowledge of a sensation, the result of intellection, is another.

8. We deny that, in using words for logical purposes, *three* operations of the mind are concerned. We affirm that the operation is always the same, however it may be signified outwardly,—that is, whether by single terms, or by complex terms, or by propositions, or by propositions united into forms of greater extent and complexity. We affirm, in short, that the difference between terms, and proposition, and syllogism, is a mere grammatical difference, having no foundation in any correspondent original processes of the mind, but being means sometimes convenient in one shape, sometimes in another, for fixing, or for developing the knowledge we have acquired, or for presenting it to another mind. For, in our doctrine, a single term, quite as much as a proposition, and quite as much as a syllogism, is an indication of knowledge arising out of premises. Thus *red* expresses our knowledge of a colour; which knowledge is the fact of our being aware of one sensation relatively to others of its kind; that is to say, we know what is red, because we know what it is not to be red; nor could we know the one, unless at the same time we knew

the other. That of which we have knowledge, and that by which we know it, are the premises,—the consequent knowledge is the conclusion expressed by this term. In a proposition, there is the same fact, with this only difference, that the premises are indicated as well as the resulting knowledge, though not indicated so distinctly as by the syllogism. In this last, the two premises and the conclusion are stated in so many sentences of independent grammatical construction; and the syllogism is therefore the most explicit form in which we can lay down what at any moment we know.

9. But in speaking thus of the syllogism, we do not mean the syllogism which operates by extremes and middle term, under the doctrine of affirmation and negation. With us, affirmation and negation belong to Grammar, not to Logic. *No man*, and *every man*, are equally signs of positive knowledge, in the one case arising out of the premises *no* and *man*, in the other out of the premises *every* and *man*. The same may be said of the knowledge expressed by *is-not*: it is positive knowledge, quite as much as that expressed by *is*. In all cases the resulting expression is one expression with one meaning:—Such is the datum of our syllogism, such the related argument. But these are no sooner expressed than the conclusion unites them and makes them one; so that now the whole syllogism is one expression with one meaning,—an expression of the knowledge attained or developed; just as a single term is such an expression; just as a complex term is such an expression; just as a proposition is such an expression.

10. With regard to the Categories, the GENERAL HEADS of all we know, they seem at present to have lost their reputation even with the Aristotelians themselves.* We may indeed fairly ask why they are so many, or why they are not more. As to one of them, RELATION, we affirm this to be included in all the others. A *substance*, whatever it be, is known, because we are aware of its *relation* to other substances; so of a *quality*; so of each of the other heads. We ask also, as to these general heads, or the special heads under them, or the singulars under these,—what is meant by calling them *ideas*. If by ideas is meant the *knowledge* which they signify,

* "The catalogue certainly is but a very crude one." Whately's Logic, Book IV. ch. II. § 1 (a foot note).

our only objection to the word is, that custom has rendered it, for this meaning, a vague and indistinct expression:—if other is meant than knowledge of the things to which the term can be applied, we object to its application in this way, till it can be shown what it is that words can signify other than things real, things ideal, (both of which come under the common term of things physical,) and things metaphysical: the words in all three cases being *immediately* significant of knowledge, which, in its nature, is distinct from the things comprehended by it; that is to say, words are, in all cases, immediately significant of what is metaphysical, but can next be applied as names to things real, or to things ideal, or to things which are neither the one nor the other, but are the relations under which those things suggest themselves to the human understanding, which relations we have the power to entertain apart from the things.

11. The science of the formal syllogism proposes a demonstration of its conclusions. Our doctrine is, that we cannot come to a false conclusion in deductive reasoning except by depending on the forms which that syllogism provides, and then neglecting its rules. The science, then, is necessary only to those who use its forms: to propose it for others, is to propose spectacles for people who, without them, cannot but see clearly, or crutches for people who, without them, cannot but walk well. The use of the syllogism in our logic, is, not to test the validity of conclusions, but to spread out our premises, that so we may be induced to consider on what grounds we have assumed them. In a word, our logic leads us always back to what we have acquired, or what we presume we have acquired, in order that, if our knowledge is not sound, we may supply its deficiencies, or set it altogether aside.

APPENDIX.

OUTLINE OF AN INTRODUCTORY COURSE OF INSTRUCTION IN LOGIC;

FOR PUPILS NOT YET COMPETENT TO ENTER ON THE STUDY OF THE WHOLE WORK.

In order to feel what he can, and what he cannot accomplish in developing his knowledge, the learner should at once be set to theme-writing.* All the instructions immediately required for this purpose will be found between Section 42, Chapter IV., and Section 4, Chapter V., both sections inclusive (pages 171–187). This having been diligently read and well considered, let a subject be chosen either from among those suggested, or from such as may occur in reading or in conversation. Say, that *Curiosity* is the subject chosen. It is most likely that his first thoughts will perplex and confuse him. He will be disposed to consider curiosity only as a mischief, an impertinence, a meanness, because his attention has been most frequently called to these effects; and yet he will suspect that some higher point of view should be taken, which may discover the good, as well as the bad effects of curiosity. A definition will here be needed,—"Curiosity, or eagerness of search after knowledge, is"—what? Let him reflect for a time, and he cannot fail to add something to the following purpose:—"either a good or an evil, according to the purposes to which it is applied." The subject thus branches into two, and his subsequent development will bring forth what his experience and reading make him know, first, of well-directed curiosity, and then of curiosity idly and impertinently directed.

It is not always necessary to begin by a definition. If the name of the subject is at once suggestive of all that it includes,

* We are here supposing the pupil to have passed through the Exercises pertaining to Grammar and to Rhetoric.

it will be best to begin, not by a definition, but by some very general proposition. In treating of *Industry*, for instance, it would be an obvious thing to say, that "It is the source of all the blessings of life." Having stated this general fact, which is to be developed by particulars, it is very likely that the young thinker will find himself lost amid the multitude that crowd into his mind. He is conscious that it will not do to note them down in heterogeneous order, just as they happen to occur, as in making out a catalogue:—how, then, must he proceed?—He must adopt some general heads, standing, as it were, midway between the first general state ment, and the infinite particulars which still lie beneath:—for instance, he might go on to say, "First, let us see what industry does for the poor man:" and having developed his knowledge under this head, the following might be another: "Next, let us see what industry does for the young, and consequently ignorant person." Other heads might be, the effects of industry on sterile land, or on land partially covered by sea; on the people of a whole country; on the arts which refine a people; and on the sciences which improve those arts. His mode of developing this subject would be a guide in developing the opposite,—*on Sloth*, of which subject, the following is an outline for his guidance; and to it are added a few other outlines, after filling up which, it is hoped that further assistance of the same kind may be discontinued.

On Sloth. 1. It is the root of all evil: what condition it brings even a rich man to. 2. What it prevents in the young. 3. What will be the character and condition of a once flourishing farm after years of neglect by a slothful owner. 4. What effect sloth produces, or is likely to produce on a whole people. 5. What effect it has upon the bodily health. 6. What effect on the mind and morals.

On Enthusiasm. Ardour of mind engendered by something that affects the imagination: may be an evil;—may be a good. 2. An evil whenever it operates against reason—for instance, in certain enterprises; in the religious temper of the mind; in the reception of new opinions. 3. A good, when it is controlled by reason—for instance, in our enterprises, in our religious feelings, in our opinions. 4. It ministers to excellence in the fine arts; it confers the capacity for appreciating and enjoying them.

On Good Temper. A greater good than any other personal endowment, or other gift of Providence. For every thing is valuable in proportion to the happiness it secures. Now a good temper, &c. A good temper may be the gift of nature, but it may also be the growth of reason and habit. For let a person be convinced, &c., and let him day by day, nay, hour by hour, watch and control, &c.

On Happiness. 1. Is the great object of all our actions: the ways are different:—this man imagines it is to be found in, &c.; another in, &c.; a third in, &c. Some suppose, &c., others, &c.—But though the ways are thus different, the end is ever the same, namely, &c. 2. The greater number of these supposed ways must be wrong; for the greater number of those who follow them confess that, in their several pursuits, they never reach their object. 3. Happiness exists in the mind, and only to a certain extent is it dependent on external circumstances. 4. What the circumstances are, both external and internal, on which happiness depends.

On Liberty. 1. A subject that seldom fails to raise our warmest emotions: we think of the heroes of Greece and of Rome, of Switzerland and of Britain:—say, who they were, and what they attempted. 2. Our love of liberty is justified by the evils that attend a state of slavery: develop these evils. 3. But liberty must not be confounded with licentiousness. Shew that wherever there is real liberty, there is subjection to authority, which controls the evil-intentioned, and protects the good.

On Self-knowledge. 1. All moral improvement depends upon it. If we know not our defects, we cannot, &c. 2. What are the hindrances to self-knowledge. 3. What will follow in proportion as we improve in it.

On Self-denial. 1. Consists in abstaining from some present gratification for the sake of greater expected good: is the great principle of religion, and of morals: of religion; for all the rewards which she holds out, are promised on the condition, &c.: of morals; for all the virtues imply that we resist, &c. 2. Self-denial is necessary, in a certain degree, to real enjoyment; for, &c.

On Obedience. Our progress in virtue, in knowledge, and in happiness, depends upon it: first in virtue; for we must conform to the laws, &c. 2. Secondly in knowledge; be-

cause we learn from others, either by teachers who communicate through the ear, or by books, which communicate through the eye; and if, &c. 3. Thirdly, in happiness; because we are prone to evil courses, in other words, to courses that end in misery, from which we can be preserved only, &c.

ON ADVERSITY. To creatures whose present existence is a state of trial, is calculated to be an ultimate good: first, by opening the heart to fellow feeling with the woes of others. 2. Secondly, by correcting vices engendered by prosperity, namely, &c. 3. Thirdly, by qualifying us to enjoy what is good, when the good returns; for he who knows not, &c., cannot truly know and enjoy, &c.

ON HABIT. 1. Is second nature: whatever is possible to be done, however difficult at first, is made easy by repeated trials, in other words by acquiring the habit: examples from the arts. 2. If it forms our practice in the mechanic and the ornamental arts, it has equal power in forming all our practice; hence our conduct in life will be dependent, &c. 3. However much we may wish to be good, yet if our habits, &c. On the other hand, our temptations to evil will be less strong, if our habits, &c.

ON ORDER. 1. Is of the utmost importance in all the concerns of life. It conduces to comfort in a household; for, &c. 2. It is the source of internal prosperity and external strength in a nation; for, &c. 3. It is necessary in our studies, because in all things to be learned there is subordination of one part of knowledge to another; and if, &c. 4. It forms the virtues; for each virtue has its bounds as, for instance, &c.

ON TIME. 1. Is, with regard to every human being, the opportunity for accomplishing the great ends of his existence. These are, happiness here, and immortality hereafter. To secure happiness here, we must, &c. 2. To secure happiness hereafter, we must so rule our present conduct, as, &c. 3. The short period of the longest life, calls upon us, &c.

ON PREJUDICE. 1. Is the habit or act of thinking and speaking, as if we had certain knowledge, when the subjects are such or so circumstanced, that we know either nothing about them, or very little. All persons are liable to prejudices, sometimes erring by being favourable, sometimes by being unfavourable:—for instance, when we see any one for

the first time, &c. So when we visit foreign countries, and see manners and customs different from our own, &c. Continue with other instances. 2. But though all persons are liable to prejudices, all persons are not governed by them. It is in this respect that people differ, and they differ greatly. One man is unconscious of his prejudices, and accordingly, &c. Another man is quite aware of the different character of his certain and uncertain knowledge, and therefore takes care, &c.

On Truth. 1 (see in the Index). 2. If we speak of Truth under three points of view, we may distinguish it as Moral, Scientific, and Divine. Moral truth is opposed to falsehood: it is the conformity of our words and actions to our thoughts. Thus we are said to speak the truth when, &c. In such a case, what we say may not be scientific truth, yet if, &c. 3. Scientific truth is that which we reach by study and experiment. Its amount will consequently be different at different periods of one's life, and at different periods of the world. Exemplify each observation. 4. Divine truth is that which belongs to the Deity, portions only of which He reveals to his creatures. Where do we find such revelation?

On Youth. 1. It is that part of life which presents the greatest number of enjoyments, the most important opportunities, the dangers most to be apprehended. 2. The enjoyments. 3. The opportunities. 4. The dangers.

On Age. 1. Though a state which we may not all attain, is one for which, throughout the previous parts of life, we should all make preparation. The nature of this preparation, that so, old age, if we reach it, may be happy. 2. The blessings of age when the proper preparation has been made.

On Solitude. 1. Is a state not meant for man, yet, as an occasional state, indispensable to the formation of some of the best qualities of our nature. Its likely effects on the understanding, and thence on the heart. 2. The unreasonableness of devoting life wholly to solitude.

On Society. 1. The nature of man is such as to demand society, both for the development of his powers, and for providing his true means of happiness. Prove these points. 2. How we may fail of these effects, though always in society.

On Geography. 1. Define it. 2. It must have begun by the knowledge of small tracts of the earth's surface:—

show in what way the knowledge must have increased,—travellers—commerce—inventions. 3. Its use in accompanying the study of history.

On Astronomy. 1. Define it. 2. The shepherds of Chaldea are the first recorded astronomers. Keeping watch over their flocks by night under a clear sky, they, &c. 3. What was the Ptolemaic system, and what is that which now has its place? 4. The kind of emotions which astronomical inquiries produce. 5. The practical benefits which the science yields.

On Agriculture. 1. One of the two primeval occupations of mankind—explain the fact. 2. All wise nations have held, and still hold, the cultivators of the land in high respect. Give proofs.

On Commerce. 1. Its necessity to the well-being and improvement of our race. Its simplest state. Indications, from history, of its early existence. 2. The states that, in modern times, have successively flourished by means of commerce.

On Morals and Manners. 1. These are not the same, though they are understood to imply each other, and though, to be perfect, they must go together. That they are not the same, is proved by the facts which we often witness, of a man sterling in morals without the recommendation of manners; and of one of superficially agreeable manners concealing the most corrupt morals. Explain the regret which accompanies our observation of either fact. 2. The union of morals and manners necessary to the perfection of both: there must be something deficient in morals themselves, if manners are wanting; and manners must often betray their flimsy character, if they do not rest on morals.

On Religion and Superstition. 1. Light and darkness are not more different than, &c., and yet, &c. Religion is the friend of man; Superstition, &c. Religion is clear-sighted, considerate, compassionate; Superstition, &c. Religion is full of hope, and rational though humble confidence; Superstition, &c. 2. The deficiencies through which Superstition gets possession of the mind, explained by the kind of persons in whom it is found, and the places where it most prevails. 3. The kind of persons in whom genuine religious feelings are observed, and the places where genuine religion is found.

*** *While the learner is prosecuting his practical exercises in logic, he should be required to study such parts of the Manual as will fit him to answer the following questions; reserving his study of the entire work for a more mature state of his undertaking.*

CHAPTER I.

Sect. 1, page 101. With what branches of learning is logic connected? In what different ways are the three branches you refer to, concerned with language? What is meant by the sense of a single word? What is meant by the sense of two or more words combined?

Sect. 2, ib. Explain the difference between induction and deduction.

Sect. 3, ib. Is there any difference between the grammatical and logical function of a word, and between logical and grammatical completeness?

Sect. 4, page 102. Who are they that learn and practise logic, both inductively and deductively?

CHAPTER II.

Sect. 11, page 113. What is the true process of inductive logic? What too often happens in this process? What is a powerful method of bringing a pupil to a consciousness of his deficiencies in the inductive process?

Sect. 12, ib. From what does all unrevealed knowledge originally spring? How are we led into the presumption that we can, of ourselves, know more than experience teaches?

Sect. 13, page 114. How are we preserved in the metaphysics of quantity (mathematics), from wandering among proofless abstractions?

Sect. 14, ib. How, in using words denoting things of sense, are we saved from inutility of thought?

Sect. 15, ib. In using the name of an abstraction,—say, *pride* instead of *proud*,—while we must apply *proud* to certain persons or certain acts, and we do not so apply the former word, we immediately mean by it nothing but the abstraction:—what have we in consequence to do? What is the the danger, ("Now the danger is," &c., page 15) when we

thus use a word to denote, not immediately, the things we know, but the form of thought under which we are *supposed* to include certain things which we know?

Sect. 16, page 115. In such phrases as the following, what have we to remember as essential differences:—*the pride of John, the brother of John; John's pride, John's brother: pride belonging to John, houses belonging to John; John possessing pride, John possessing houses?*

Sect. 17, page 116. If there is nothing within the reach of our human faculties to which a word is applicable, what interpretation should we give it?

Sect. 18, page 117. What have you to remark concerning knowledge, and the things that originally suggest it? What things exist as the subjects of thought, beside real things?

Sect. 19, ib. and 119. What are things ideal?

Sect. 20, page 118. What is a thing metaphysical? Give examples.

Sect. 21, ib. Of what things are words that are parts of speech the immediate signs? What differences of application are there among these words?

Sect. 22, ib. What is a proper name?—a common name?—a name abstract? How may a name abstract become a common name?

Sect. 23, page 119. Are not words very flexible—by which I mean liable to different extent of meaning? What three points are to be kept in mind relatively to what you have just admitted?

Sect. 24, ib. What is the etymological sense of a word? Give examples.

Sect. 25, ib. What is the general sense of a word? Give examples.

Sect. 26, page 120. What is the special sense of a word? Give examples.

Sect. 27, ib. In the use of signs to advance and fix knowledge, what operations occur?

Sect. 28, ib. What is abstraction? Give examples.

Sect. 29, ib. What is generalization? Give examples.

Sect. 30, ib. What is specialization? Give examples.

CHAPTER III.

Scct. 4, page 134. State the different kinds of definitions.

Sect. 5, ib. What is a Nominal definition? Give examples.

Sect. 6, page 135. What is a Real definition? Give examples.

Sect. 7, page 136. What is an Accidental definition? What is a Property? Explain what, in different cases, is an Accident in Logic.

Sect. 8, pages 137, 138. What is an Essential definition? Give examples. Into what two kinds does an essential definition divide? Give instances. Define *Pride*, so that you cannot speak of a proper pride: define it so that you can.

CHAPTER IV.

Sect. 1, page 140. What is Deductive logic?

Sect. 7, page 145. When we intend to develop our knowledge, what have we first to choose? What may be the different forms of titles?

Sect. 8, page 146. Suppose our subject is expressed by a single word, what is the first proof that can be given of the existence of the knowledge presumed to be included under such title? Are we always obliged to begin by a definition? Define some of the things you see around you.

Sect. 9, ib. Suppose a subject to be given out in such a form as the following—*On a Knowledge of the World*—is it more or less limited than if given out thus—*On Knowledge?* Are we tied, in the consideration of such subjects, to any definite number of points or purpose of development? Suppose our subject to be stated in the form of a proposition, as—*A proper knowledge of the world is favourable to virtue*,—will the plan of treatment be quite open to choice, as with subjects stated in the previous ways?

Sect. 10, page 147. What is an Argument? Give instances. What three things exist in every argument?

Sect. 11, ib. From how many sources do arguments take their technical names?

Sect. 12, (including title,) page 148. What are the names of External Arguments? Is not all our knowledge originally

suggested by things external? Then why do we call certain arguments internal?

150 (title.) Mention the names of internal arguments.

Sect. 13, ib. When are we said to reason from definition? Give instances.

Sect. 14, ib. When are we said to reason from Etymology? Give an instance.

Sect. 15, pages 151, 152. When are we said to reason from Enumeration? Give instances. What is the argument from enumeration sometimes confounded with? Give an instance of an inductive argument. How is the difference between an argument from Enumeration and from Induction done away with?

Sect. 16, pages 153, 154. When are we said to reason from the Genus? Give instances. What is left to the topic Species for its usual mode of proof? Give an instance.

Sect. 17, page 154. When are we said to reason from the Cause? Give instances. Give an example of what is called an Inference.

Sect. 18, page 155. When are we said to reason from the Effect? Give instances.

Sect. 19, pages 155, 156. What Latin phrases often occur in logic, implying the same as argument from cause, and argument from effect? How do you define *a-priori* reasoning? What is *a-posteriori* reasoning?

Sect. 20, p. 157. As every cause is an Antecedent, why do we not consider every antecedent to be a cause? Give an instance of an argument from antecedents.

Sect. 21, ib. As every effect is a consequent, why do we not consider every consequent to be an effect? Give an instance of an argument from consequents.

Sect. 22, page 158. When are we said to reason from the Adjuncts? Suppose we develop our knowledge of John by all that constitutes his history, why shall we be said to reason from the Adjuncts or Accidents of our subject? What did the ancients mean by Essence? What are Accidents? What are Properties?

Sect. 23, page 159. What general head of several topics have you now to mention? Give an instance of reasoning from Similitude;—from Analogy, or Parity of case;—from Contraries;—from Proportion. Page 160: When are we said to argue *a fortiori*? Give an instance.

Sect. 24, page 160. Explain the phrase *Cæteris paribus.* Explain *Mutatis mutandis.* Exemplify their use.

Sect. 25 (and Title), ib. What is the next source whence the names of arguments are derived? Page 161: What do you call the first two propositions of a syllogism when taken together? What are they called separately? Give an instance to show that it is sometimes indifferent which of the two premises we call the datum, and which the argument. What, for the most part, will be the premise to which the name datum will be properly applied?

Sect. 26, page 161. When are we said to use the *Argumentum ad judicium?*

Sect. 27, ib. When is it that, in reasoning to oneself, one may be said to use the *Argumentum ad hominem?*

Sect. 28, page 162. When are we said to use the *Argumentum ad doctrinam?* Give an instance.

Sect. 29, ib. When are we said to use the *Argumentum ad verecundiam?* Give an instance.

Sect. 30, ib. When are we said to use the *Argumentum ad fidem?* Exemplify your meaning.

Sect. 31, page 163. In what manner may a person wilfully go astray in his own thoughts? What expedient in rhetoric, will such error in logic correspond to? Give an example.

Sect. 32, ib. What error in one's own reasoning corresponds to what is called *Argumentum ad passiones?* Give an instance.

Sect. 33 (and Title), ib. What is the next source whence the names of arguments are derived? Does the reasoning process necessarily change with the changing forms of language? Page 164: Explain, as one instance for many, what it is to have the knowledge which the word *man* expresses. When we know *man* to be a rational animal, how may that knowledge be developed in a syllogism? Why may the syllogism be deemed the fundamental form of reasoning?

Sect. 34, page 165. Give instances to show that two words, properly put together, are tantamount to a syllogism. Page 166: What may be regarded as the original form of speech in which knowledge is developed in deductive logic?

Sect. 35, page 166. Give an instance of what you call the original form of speech, but so constructed that each of the two parts is made up of many subordinate parts, and these

again of others, till at length we reach the mere grammatical parts.

Sect. 36, page 167. Although the period constructed of noun and verb, is the original form of logical development, yet to what form do logicians more commonly refer all other forms?

Sect. 37, ib. What is an Enthymeme? Give instances.

Sect. 38, ib. What is a Sorites? Give an instance.

Sect. 39, page 168. Is Logic, or is Grammar, the department of learning concerned with the distinction of propositions as affirmative or as negative, as categorical or as hypothetical (or conditional)? Give instances of these different sorts of propositions.

Sect. 40, page 169. What is a Dilemma? Give instances of data which can be unfolded into syllogisms exemplifying the dilemma. Unfold the instances into syllogisms. Page 170: Give an instance of the method of reasoning called *Reductio ad absurdum.*

Sect. 41, page 170. What is an Epichirema? Give an instance of a syllogism which may be the foundation of an epichirema. I will now develop this syllogism so that it shall be an epichirema: what have I added to the datum? What to the argument? Page 171: In what brief manner would rhetoric lead you to say all this?

Sect. 42, page 171. In following out the exercises you will have to write, what are you cautioned against?

Sect. 43, ib. How is improvement in logic best promoted? What does the word *theme* properly mean? What may it also mean?

Sect. 44, ib. When the subject of a theme is expressed by a mere grammatical noun, what kind of thing, different at different times, may it be the name of? What, at different times, will the name itself be? Page 172: Give instances of what you state.

Sect. 45, page 172. Give a few instances of subjects which are things metaphysical under names abstract. In treating these, where may you find certain cautionary principles that you ought to keep in mind? Now say, how you would in general begin, and how proceed, in developing your knowledge on such subjects. Page 174: Give some other instances of subjects that are things metaphysical under names abstract. How would you in general begin, and how proceed, in treating these?

Sect. 46, page 175. What are internal, and what are external arguments, otherwise called? When a real or an ideal thing is given out for treatment, what makes a development of our knowledge difficult? Page 176: Suppose Socrates were given out for a theme, how should we treat it objectively? Under what implied title might we otherwise treat it?

Sect. 47, page 177. The title of a theme, you formerly told me, might be a mere grammatical noun-substantive, or a logical, that is, a constructed noun:—in what other way can a theme be given out? Page 179: Mention a few *theses*.

CHAPTER V.

Sect. 1, page 180. By what three ways will a theme-writer be liable to logical errors in his deductive practice?

Sect. 2, ib. What is Verbiage?

Sect. 3, page 182. What, when it becomes evident in language, does confused Reasoning arise from?

Sect. 4, page 184. What is Disjointed Reasoning?

Sect. 5, page 187. Under Verbiage, what are more special names for errors in logical deductive practice? What designations, still more special, come under Petitio-principii? What under Non-sequitur? What under Error in distinction or division? Under Confused reasoning, what are the special descriptions of faults? Under Disjointed reasoning, or Ignoratio elenchi, what are the special descriptions of faults?

Sect. 6, page 188. What is Begging the question? Give an instance. Correct the instance in different ways.

Sect. 7, page 189. What is an Identical proposition? Give instances.

Sect. 8, page 190. When you mean to give a verbal explanation of a word, is it a fault to use for the purpose another word having the same meaning? When will it be verbiage to do so? The following is given as an example of the fault of Explaining a thing by itself: "Justice regards both magistrates and private individuals: the former show themselves to be influenced by it when they make an equitable distribution of rewards and punishments; the latter, when they are sincere in their words, and just in their dealings." Correct the example.

Sect. 9, ib. When does the error of Reasoning in a circle, take place? Page 191. Give an obvious example.

Sect. 10, page 192. When are Premises irrelevant? Give an example.

Sect. 11, page 198. When you prove too little, what sort of logical fault must it be? Give an instance. In all cases of proving too little, what do you mentally supply? Page 199: Give an example of an inference, in contradistinction to a necessary conclusion, and let your inference have the utmost certainty that an inference can have. Give a further instance or two of the error of proving too little.

Sect. 12, page 200. Why will proving too much be a non-sequitur? Give an example. Correct the example. Page 201: In any case of proving too much, as in any of proving too little, an unwarranted datum is assumed; but what is the difference of the datum in the two cases? Give a further instance or two of the error of proving too much.

Sect. 13, page 202. What general form of verbiage do we next reach? What is the species you have here to speak of? Give instances of the fault. I will repeat your instances, and you must correct each instance as I go on.

Sect. 14, page 203. What is a cross division? Give instances. I will repeat your instances, and you must correct each as I go on.

Sect. 15 (and Title), page 204. What description of faults come now to be noticed? What is the particular sort you have here to speak of? Page 205: What will be the effect of saying other than we mean, even supposing we are not entirely misunderstood? Give instances. I will repeat your instances, and you must tell me, after each, what the reasoner truly means. Page 206: Is it a fault to use a sentence that can be understood in two ways? Give some further instances of sentences that do not clearly say what is meant. I will repeat your instances, and you must correct each as I go on; rendering meaning in two ways when you are not sure of the one intended.

Sect. 16, page 207. To what fault is that of *Not distinguishing different senses of the same word*, opposed? What might our present title be? Page 208: How far are we at present concerned with this fault? I will read, as an instance, the faulty passage, which runs thus: "To write well is an

accomplishment," &c. Now tell me in what way it is wrong. I will read the next example: "It is better to be sensible," &c. Tell me the faulty parts, and correct them.

Sect. 17, page 209. What are the means which grammar provides, for the clear development of thought by words? While grammar looks to accuracy in the outward structure of language, what is it that logic must care for? Give a rule concerning what a sentence should not be made to bear. I will read each of the three examples, and you must tell me, after each, the nature of the fault.

Sect. 18, page 211. What is the Latin term for the errors that come next under notice? What may the phrase mean? Describe the sort of learner who is especially liable to such errors as you mention. Page 212: What is the effect of what we call *thinking* upon the relations which constitute our knowledge? I will read you the example of part of a theme in which several propositious are required to make the train of thinking clear: "The treasures of wisdom," &c. Now tell me how you would correct this.

Sect. 19, page 213. What ought a proposition *not* to contain? Give an instance. In order to keep clear of even seeming to promise too much, what should the theme-writer avoid? I will read you the instance: "Having thus described and illustrated," &c. Now, correct it.

Sect. 20, page 214. When does the fault of *Deviating from the proposition* occur? I will read you the instance: "Anger has been called a short madness; and people," &c. Now describe how it is faulty.

Sect. 21, ib. What does the fault of *Discoursing short of the proposition* arise from? Page 215: Is a writer always bound to treat a subject in the general way in which it may be given out?

Sect. 22, page 215. What does the fault of *Discoursing wide of the proposition* arise from? Page 216: What person may a writer be compared to, who is guilty of the fault? I will read you the two examples of the fault, and you will say, after each, why it is wrong. Page 217: Give instances to show that an indistinct view of a subject may be betrayed by a single expression.

KEY

For Correcting, at Pages 203, 204, and 206, the Sentences Logically Defective.

Page 203.

This great politician desisted from his designs, when he found them impracticable.

He was of so high and independent a spirit, that he abhorred being in debt.

Though raised to an exalted station, he was a pattern of piety and virtue.

His end soon approached; and he died with great fortitude.

He was a man of so much pride, that he despised the sentiments of others.

Poverty induces dependence; and dependence increases corruption.

This man, on all occasions, treated his inferiors with great disdain.

There can be no order in the life of that man, who does not allot a due share of his time to retirement and reflection.

Such equivocal expressions, mark an intention to deceive.

His cheerful, happy temper, keeps up a kind of daylight in his mind, and fills it with a steady and perpetual serenity.

Page 204.

The things brought out to me, were some square, some round; some white, some blue, some red; some natural, some artificial.

He was a man of extensive riches, high birth, and exalted virtue; quick to discover fraud; very generous, and of great temperance.

In treating of poetry, I shall consider it under the heads of Epic, Lyric, and Dramatic; Ancient and Modern; Classical and English; Written-in-rhyme, and Written-in-blank-verse.

Men, as to constitution, temper, and habits, are phlegmatic, sanguine, or choleric; gay or gloomy; devoted to pleasure, or devoted to business.

Page 206.

The Romans shall, I say, subdue Pyrrhus. *Or*, Pyrrhus shall, I say, subdue the Romans.

The duke yet lives that shall depose Henry. *Or*, Henry shall depose the duke that yet lives.

The rising tomb bore a lofty column. *Or*, a lofty column bore the rising tomb.

And thus the son addressed the fervent sire. *Or*, Thus the fervent sire addressed the son.

And a solemn stillness holds all the air.

He was mounted upon a hot and fiery steed, which seemed to know his aspiring rider.

If this day happen to be Sunday, then on the next day following, this form of prayer shall be used and the fast day kept.

A collection is making to protect and uphold such electors, as, regardless of threats and unmindful of intimidation, refused to vote, contrary to their desires and consciences, for A. and B.

He was more civil to me than he commonly is. *Or*, He was more civil to me than people commonly are to one another.

You can arrive in time, only by starting early. *Or*, You can do no more than arrive in time, by starting early.

Though he had been charitable to others, he found but few friends in his own extremity.

Persons having an income not amounting to a hundred and fifty pounds a year, are not liable to the income-tax.

The Romans understood liberty as well, at least, as we.

Theism can be opposed only to Polytheism or Atheism.

These are not such designs as any man who is born a Briton, ought to be ashamed or afraid, in any situation, in any circumstances, to avow.

The hen being in her nest, was killed and eaten there by the eagle. *Or*, The eagle having killed the hen, carried off her prey, and depositing it in her own nest, eat it there.

It has been said that Jesuits can not only equivocate. *Or*, Jesuits are not the only persons that can equivocate.

You will not think that these people, when injured, have no right at all to our protection. *Or*, Have less right than others to our protection.

Solomon, the son of David, and the builder of the temple of Jerusalem, was the richest monarch that reigned over the Jewish people.

Solomon, whose father David was persecuted by Saul, was the richest monarch of the Jews.

Lisias, speaking of his friends, promised his father never to abandon them. *Or*, Lisias speaking of his father's friends, promised his father never to abandon them.

The Divine Being, ever liberal and faithful, heapeth favours on his servants. *Or*, The Divine Being heapeth favours on his liberal and faithful servants.

Every well-instructed scribe is like a householder, who bringeth out of his treasure new things and old.

Dryden, in the following words, makes a very handsome observation, on Ovid's writing a letter from Dido to Eneas.

Imprudent associations disqualify us for instructing or reproving others. *Or*, Disqualify us for receiving instruction or reproof from others.

ALPHABETICAL INDEX

TO THE

MANUAL OF RHETORIC, AND THE MANUAL OF LOGIC.

ADAPTED NOT ONLY FOR REFERENCE, BUT FOR OCCASIONAL FURTHER INSTRUCTION.*

*** The first figures indicate the page: those within parenthesis, the section.

ABSTRACT, Abstraction. *Abstract* means, drawn off or separate from that in which it adheres, and which is called the CONCRETE. Thus, *white* or *whiteness* indicate an abstraction from any white substance; as, for instance, from *a white man*; which expression being applied to a particular white man, is the name of a concrete, though, till so applied, the name is abstract. All words have an immediate correspondence only with things abstract; page 109 (10). And many words are doubly abstract; *ib.*; also, 114 (15). A name or noun abstract is distinguished in logic from a name proper, and a name common; 118 (22).

Absurd, Absurdity, Reductio ad absurdum. *Absurd* means, contrary to reason. An assertion may be false without being absurd: it is false but not absurd to say that London is the capital of France. Absurd is what in thought *cannot be*; false, what in fact *is not*. It is absurd to say that a straight line can be a crooked one; *false* would be a word wrongly used in such a case. For an example of *Reductio ad absurdum*, see 169 (40).

Accents. These are otherwise called slides or inflections of the speaking voice; 57 (7).

Accident, Accidental. *Accidental*, in logic, means sometimes happening, and sometimes not. Accidents are also called Adjuncts; 7 (II. 2); and 158 (22). An Accident must be distinguished from a Property; and an Accidental definition from an Essential one; 136 (7). Accident is one of the Aristotelian predicables; 220 (4).

Accumulation. This, in rhetoric, is otherwise called Synathroesmus; 116 (12).

* Controversial points, though they could not be altogether avoided in the body of the foregoing Manual of Logic and its Notes, (into the latter of which they are principally thrown,) are reserved for some further elucidation in this Index; over which the reader is requested to cast an inquiring glance, even though he may not have occasion to refer to it for the usual purposes of an Index.

Adjective. In logic, the *difference*, in a definition, is expressed by an adjective, which may be a mere adjective, or a logical, that is, a constructed adjective; 137 (third foot-note).

Adjunct. See Accident.

Affirmation, Affirmative. An affirmation or affirmative proposition is distinguished, in Aristotelian logic, from a negative one; 223 (5): in our logic, the difference is considered to be purely grammatical; 167 (39), and 226 (9); unless indeed when one person says *no*, or what is tantamount, and we oppose it by *yes*, or what is tantamount. See Positive.

Aggregate. This is one of the sources of sophistical delusion; 125 (35); and 197 (the Syllogisms).

Allegory. A method of speech proper only to rhetoric; 20 (19).

Alliteration. One of the minor expedients of rhetoric; 19 (15).

Anabasis. That which in rhetoric is otherwise called climax or gradation; 16 (12).

Anacœnosis. Communication, one of the expedients of rhetoric; 21 (23).

Anacolution. A failure of the grammatical construction, vindicated for the purposes of rhetoric; 15 (11); see also 70 (first foot-note).

Analepsis. A rhetorical method of recovering the construction of a period in proceeding to complete it; 14 (9).

Analogy. Parity of case, one of the topics of internal argument, 8 (II. 3); 159 (23).

Analysis. In logic, the procedure of the understanding in which we seek or seem to seek a conclusion not yet attained, in contradistinction to *Synthesis*, in which we first lay down what we intend to prove. The former is a *disentangling* of arguments; the latter a *putting* of arguments *together*. The former is the Inductive process; the latter, the Deductive.

Anaphora. A method of analepsis; 14 (9); 17 (12).

Anastrophe. A rhetorical transposition; 15 (10).

Antanaclasis. A term in rhetoric used in two ways; 14 (9); and 18 (14).

Antecedents. One of the topics of internal arguments; 7 (II. 2); and 157 (20).

Anticlimax. In rhetoric, the opposite proceeding to climax; 16 (12).

Antimetabole. A sort of antithesis in rhetoric; 18 (14).

Antithesis. Opposition of meaning and of words; 17 (14).

Antonomasia. In rhetoric, the use of a proper, for a common name; 20 (19).

Aparithmesis. A term in rhetoric for *enumeration*; 16 (12).

Apodosis. The former of the two members of a period; 14 (7).

Apophasis. The same in rhetoric as *paraleipsis*, or omission; 21 (23).

Aporia. An expedient in rhetoric, when the speaker chooses to appear in a state of doubt; 21 (23).

Aposiopesis. An expedient in rhetoric when the speaker chooses to hold back what he pretends he was about to say; 15 (11).

Apposition. A grammatical repetition of a noun in the same case, often used with good effect in rhetoric; 14 (9).

A-posteriori. An argument from the effect, as distinguished from an argument A-priori, or from the cause; 7 (II. 2); and 155 (19).

Apostrophe. A rhetorical address to an imaginary, a dead, or an absent person; 22 (24).

Apprehension. Erroneously considered by the Aristotelians to be a distinct operation of the mind, and divided into Incomplex and Complex; 144 (foot-note); 218 (3); 225 (8).

A-priori. An argument from the cause, as distinguished from an argument A-posteriori, or from the effect; 7 (II. 2); and 155 (19).

Argument; Argumentum ad judicium; ad hominem, &c.; Argumentative. An *Argument* is that which being itself admitted to be true, proves something else to be true; 147 (10); Arguments derive their names from three sources, 147 (11); Arguments investigated for the purposes of Rhetoric; 3–9 (I. 1.–II. 3);—for the purposes of Logic; 148–171 (12–41). The Argumentative, in rhetoric, is comprehended under Didactic composition; 2 (4).

Aristotle. The doctrine of the syllogism as taught by him and his followers, repudiated; 102 (note to Chap. I.); 142 (note to Sect. 2); 144 (foot-note). His doctrine of definition the only useful part of his logic; 129 (1). Alluded to as a juggler, but one who deceived himself before he deceived others, 219 (foot-note). See also in this Index, Formal Logic. See further in this Index, Philosophy, Philosophers.

Articulation. A constituent part of oral speech; 56 (2).

Asteism. A civil kind of sarcasm; 20 (21).

Asyndeton. The omission of conjunctions for the sake of rhetorical effect; 16 (12).

Attention. The will to retain a present state of the understanding by means of that which suggests it, till other states arise that are related to the first in a desired and expected manner.

Auxesis. A method of rhetorical exaggeration; 21 (22).

Barbarous words. An Exercise for avoiding; 28.

Bathos. A sinking in expression, which is almost always a fault; 16 (12).

Blacklock. The blind poet of Scotland,—an allusion to his case; 109 (note to the previous Section).

Being. A name including every possible subject of thought, except Not-being; 130 (2). See Thing, in this Index.

Cæteris paribus. Other things being equal, a Latin phrase often used in argument; 160 (24).

Case. State of the *case* is one of the parts of a judicial oration; 10 (2); 84, 85.

Catabasis. A descent or sinking in expression, otherwise called Bathos; 16 (12).

Catachresis. A metaphor bold to excess, an *abuse* of figurative speech to gain a certain end; 19 (17).

Category, Categorical, Categorematic. *Categorical* means collected or assembled in order to declare: hence it means positive as opposed to hypothetical. A category is a class of assembled things; 130 (2). Aristotelian Categories; 220 (4); and 226 (10). *Categorematic* is an expression used by the Aristotelians to denote a word which is capable of being employed by itself as a term, as *man* and *mortal*, in saying

Man is mortal. If a word cannot be so employed, as, for instance, an adverb, a preposition, &c., they call it Syncategorematic. In our system, a Categorematic term will be better called, *a logical part of speech unconstructed;* and a Syncategorematic term, *a mere grammatical part of speech.*

Cause. One of the topics of internal arguments; 7 (II. 2); 154 (17). A cause is that which we have found by experience to have one uniform consequent or consequents; 157 (20). It must be added, however, that this is not all that makes up what we mean by *cause.* We conceive an antecedent *Will* wherever there is an effect, and if the immediate antecedent cannot have a will because devoid of sense, we go to a higher Will that disposes all things, and among them the conditions of the immediate antecedent with relation to its uniform consequent.—See at Philosophy, Philosophers, in this Index, the concluding remarks.

Characteristic. In logic, the same as specific; 137 (8).

Charientism. A civil kind of sarcasm; 20 (21).

Circle. The etymological sense of the word *period;* 14 (7). The fallacy of reasoning in a circle; 190 (9).

Class, Classification. By *class,* we mean, several things assembled under one common designation. *Classification* is the origin of logical definition; 130 (2). Order, genus, kind, species, sort, variety, are words that mean the same as class.

Climax. A gradation, or rising of one circumstance above another in speaking; 16 (12).

Colloquial. *Colloquial* style; 12 (2). Exercise for improvement in; 32.

Common name. A name applicable in common to many things; 118 (22).

Comparison, Comparates. *Comparison* is the generic name of several topics of internal arguments; 8 (II. 3); 159 (23). *Comparates* are any two things which are compared together.

Composition. As a general term, it implies a putting of parts properly together to form a whole. Accordingly in literature, it is the formation of discourse according to the laws of grammar, of logic, and of rhetoric.

Conceits in poetry. See Fancy.

Conception. *Conception* is thus distinguished from Perception:—When we see, or hear, or feel, or touch, or taste, we have a *perception* of the thing seen or heard, &c.; but if, not seeing, or hearing, &c., we nevertheless have the thing mentally present, we are said to have a *conception* of it. A conception is otherwise called an idea; but note, that idea is liable to many other applications: see 108 (9, 10, and the following note); 117 (19, 20).

Concrete. The whole of that from which we mentally draw off (abstract) what we think and speak of separately. Every word stands immediately for what is abstract, but if it should be a noun common or a noun proper, the moment we apply it to a real or ideal person or thing, it is the name of a concrete, and may then, and not till then, be called a name-concrete. An adjective, as *foolish,* cannot be a term-concrete, though it may be a part of such a term, as of the phrase *a foolish saying,* which is a concrete name when applied to some particular saying. The forms of language often lead us to mistake mere abstractions for things concrete; 115 (16).

Conclusion. The expression which declares what the understanding attains or deduces from *premises;* 101 (1); 141 (2); 147 (10). Conclusion in the deductive process distinguished from Inference in the inductive; 164 (34).

Concurrent probabilities. A rhetorical delusion in speaking of them; 125 (35).

Conditional, Conditions. *Conditional*, in logic, is the same as hypothetical. But the difference indicated by either of the words, if it extends no further than to the form of a proposition, is purely grammatical; 168 (39, ad finem). For preliminary conditions of a dispute or discussion, see 139 (second note to Chap. III.)

Confirmation. The argumentative part of a regular oration; 10 (2).

Confutation. An occasional part of a regular oration; 10 (2).

Connotative. That which notes something, and, along with it, something more; 149 (foot-note). In our logic, all words are connotative: the distinction sought to be enforced by non-connotative will be sufficiently met by calling such a word as *John*, a term of single application; and such a word as *whiteness*, a term of double abstraction.

Consciousness. Error of the Sensationalists with regard to this part of our nature; 110 (first foot-note).

Consequence, Consequents. *A consequence*, in logic, is either an inference, or a conclusion. *Consequents*, the name of one of the topics of internal arguments 7 (II. 2); 157 (21).

Conviction, to Convince. The object of the rhetorician is *to convince*, as well as to instruct and delight:—*to persuade* implies all three of these, when, and in what proportion, needed. Logic enables us to convince *others*, by the practice of developing, for our *own* security and satisfaction, the means of conviction obtained by our studies generally in the several departments of learning; 1 (1–4); 140 (1).

Copula. The verb *is*, in Aristotelian logic; 218 (3).

Correlative. Terms are *correlative* which imply each other, as *father*, which implies *son* or *daughter;* and *son*, which implies *father* and *mother*. So likewise *king* and *subject*, *master* and *servant*, *cause* and *effect*, *antecedent* and *consequent*, are correlatives. But note, that the principle which such words make peculiarly and strikingly evident, is universally operative. We could not have the knowledge included in any word whatever, if we had not other knowledge which the word implies, though it does not directly express it. Thus we could not know what a man is, if we did not know what is not a man; and so with all things whatever; 163 (33).

Cross divisions. The error of confounding; 203 (14).

Datum, pl. Data. The *datum* is that which, in an argument, is *given* or conceded, and occurring in a syllogism, forms one of the two premises; 147 (10). It is one of the sources from which arguments derive their technical names; 3 (I. 1–7); 160 (25–32).

Decrementum. A species of sinking or bathos in style; 16 (12).

Deduction, Deductive. *Deduction* is the process by which knowledge is spread out before the understanding in words; 101 (2); 140–145 (1–6).

Definition. An important part of logic; its theory and practice; 129–140 (1–8, including the two notes). In attempting to develop know-

ledge, it is the first proof that can be given that we have the knowledge; 146 (8). A general topic of internal arguments; 6 (II. 1); 150–158 (13–21).
Deliberative. A term applied to the oratory of the senate, and of assemblies of the people; 2 (4). Subjects for exercise in; 82 (9, 10, 11).
Delivery. The fourth part of rhetoric; 3 (4); 56–59 (1–16).
Delusions of the rhetorical sophist. Cautions against; 121–129 (31–36).
Demonstrative. A term applied to oratory, so far as it embraces eulogy and instruction, when it is not proposed, for any immediate object, to move the will; 2 (4). Subjects for Exercise in; 82 (1–8). *Demonstrative*, in logic is said of argument which proceeds from admitted premises, to conclusions involved in those premises.
Descriptive, Description. *Descriptive*, in rhetoric, is comprehended under Narrative composition; 2 (4). *Description*, in logic, is called Accidental definition, 136 (7); 146 (8). Subjects for exercising learners in description; 74 (1–10).
Diasyrm. Another name for sarcasm, especially when applied with some degree of moderation; 20 (21).
Diction. The manner or style in which, as to his words and sentences, a person speaks or writes: it is the third part of rhetoric; 11–23 (1–24). Instruction and Exercises for improvement in; 26–55.
Dictum. Aristotle's *dictum*, the axiom of the formal syllogism, is referred to at 104 in the continuation of the note. See also 221 ("To a demonstration, an axiom," &c.)
Didactic. One of the general divisions of rhetorical composition; 2 (4).
Difference. A part in every real definition; 137 (8). It is always expressed by a grammatical or logical adjective, frequently, in the latter case, of very complicate construction; *ib.* (third foot-note). The difference, in an Accidental definition, may be carried out into a biography; 146 (8). Difference is one of the five Aristotelian predicables; 220 (4).
Dilemma. A description of syllogism whose peculiarity is not of a merely grammatical character; 169 (40).
Disposition. The art of arranging the arguments of a discourse. It is the second part of rhetoric; 10 (1, 2).
Disputation. Hints for ascertaining the reasonableness of a dispute or discussion, or of fixing its conditions; 139 (second note to Chap. III.)
Distribution. The meaning of the word *division*, in logic, explained by it; 132 (2, ad finem). The doctrine of distribution in Aristotelian logic; 221 ("Another necessary doctrine towards," &c.)
Division. See Distribution above. Division is also a term for one of the sub-parts of an oration; 10 (2).
Double abstraction. See 114 (15).
Douglas. Mr. James Douglas of Cavers alluded to, and quoted from; 152, 153 (foot-note); and 199 (foot-note).

Echo. A name sometimes used in place of other names of certain figures of speech; 14 (9); 17 (13).
Ecphonesis, Exclamation. A form of sentence in rhetoric; 13 (6).
Education. Specimens of faulty themes, and of a corrected one, on *Education;* 181, 182, 184.
Effect. One of the topics of internal arguments; 7 (II. 2); 155 (18).

Elenchus, Ignoratio elenchi. *Elenchus* (or *elench*), as a general term, means an argument, but, specially, the point or purpose which a course of argument keeps, or ought to keep in view. *Ignoratio elenchi* means the neglect to have such a point or purpose while arguing, or the neglect of keeping it steadily and clearly in view after having had it; 211–217 (18–22).

Elocution, Eloquence. *Elocution* means either Diction, or Delivery; 3 (foot-note). *Eloquence* is another form of the same word; but is commonly employed with a larger meaning, such as includes all the requisites of oratory.

Emotion. Rhetoric alone, of the three arts which teach the use of language, (Grammar and Logic being the other two,) concerns itself with our emotions; 1 (2); 101 (1).

Enantiosis. Antithesis or Opposition; a figure in rhetoric; 17 (14).

English History. Subjects for Narrative Exercises from; 71.

Enthymeme. A form of argument in which the datum is not expressed; 167 (37).

Enumeration. A topic of internal argument; 6 (II. 1); 151 (15). Also, a form of speech in rhetoric; 16 (12).

Epanalepis. Epanaphora. Epanodos. } Modes of rhetorical verbal repetition; 17 (13).

Epanorthosis. Correction; an expedient in rhetoric; 21 (23).

Epiphora or Epistrophe. A mode of rhetorical verbal repetition; 17 (13).

Epizeuxis. A passionate repetition of words in rhetoric; 17 (13).

Erotesis. Interrogation, a form of sentence in rhetoric; 13 (5).

Essence, Essential. *Essence* is that (supposed something) which makes a thing what it is; 158 (22). Essential definition; 137 (8).

Etymological, Etymology. The *etymological* sense of a word; 119 (24). Etymology is one of the topics of internal arguments; 6 (II. 1) 150 (14).

Eulogy. A speech belonging to the class called Demonstrative; 2 (4). Outline for a Eulogy on a schoolboy; 82 (1).

Euphemism. A delicate way of saying what might otherwise give offence; 21 (22).

Examination questions. In Rhetoric, page 9: page 17: pages 22, 23: page 60. In logic, Introductory course, page 234.

Exclamation. See Ecphonesis.

Exergasia. A mode of rhetorical repetition by phrases of the same meaning; 17 (13).

Exordium. The Proemium or opening of an oration; 10 (2).

Experiment, Experience. *Experiment* is one of the two topics of externa. arguments; 6 (I.); 148 (12). *Experience* is the original source of al. human knowledge; 155 (19).

Expression. In oratory, *expression* is the language of nature, mingling with, and giving soul to artificial language; 57 (8).

External arguments. These are employed in rhetoric when the auditore require instruction in what they do not yet know; 6 (1). Such arguments do not properly make a part of deductive logic, yet are usefully considered under it, because logic should be so studied as to prepare for rhetoric; 148 (12).

Extremes. The minor and major terms in the Aristotelian syllogism; 219 (4).

Fallacy, False, Falsity, Falsehood. *Fallacy* is a deceptive argument, which may not be *intended* to deceive. False means not true, either with, or without intention to deceive. A Falsity should mean what is false when there is no intention to deceive; but this meaning is not always adhered to. A Falsehood is, what is false when there *is* an intention to deceive; in which sense Falsity is also liable to be less properly used.

Familiar letters. Subjects for, 74–81.

Fancy. This is often used as a term synonymous with Imagination, but the best custom seems to warrant this difference: Imagination implies emotion as causing the presence of the conceptions, their character, combination, and sequence: (see Imagination:)—Fancy implies conceptions formed and continued voluntarily, that is, by choice, and without emotion. Fancy therefore is the origin of the *conceits*, as they are called, by which the school of poetry is distinguished which was prevalent in Italy at a certain period, and in our own country during the period which intervened between the Romantic school that closed about the end of Elizabeth's reign, and the Classical school that opened after the Restoration. The poets of that intervening school are called the *metaphysical* poets. Even Milton is often guilty of these *conceits*. Thus, in a sonnet which begins very naturally by saying that Shakspeare needs not a stone monument, he goes on with the conceit, that since we are all astonished by his genius, that is, turned into stone, we are all stone monuments to record his excellence; and in this manner, he *fancifully* makes out that any other monument is rendered unnecessary.

Figurative language, Figures of speech. See from page 12 to 22 (3–24). See an alphabetical Index, and the etymology of the names of the figures, page 24. Instruction and Exercise for the proper use of figurative language, pages 52–55 (Section 10, et seq.)

Figure of a Syllogism. The difference of the four figures of the Aristotelian syllogism explained; 223–225 (5, 6).

Flatness of style. Exercise for correcting; pages 30, 31.

Forensic. See Judicial.

Formal logic, Forms of an argument, Forms of language. The *Formal logic* of Aristotle objected to; 102 (Note); 122 (32); 133 (3); 142 (Note); 144 (foot-note), 167 (39). Some account of the syllogism of formal logic; 217–225 (2–6). Its principles opposed; 225–227 (7–11).

For *Forms of an Argument*, see 163–171 (33–41).

For certain *Forms of language* which are liable to produce error of thought, see 115 (16).

Fortitude. Example of a theme upon; 174.

French Speculative Philosophy. This subject alluded to; 106 (foot-note).

Friendship. Example of a theme upon; 185, *et seq.*

Function. Logical and Grammatical *function* distinguished; 101 (3); 144 (5).

General proposition. Such a proposition is often put forward by the rhetorician with a delusive purpose; 123 (33).
Generalization. A process carried on by means of a sign, which in logic is always a word; 120 (29).
Genus, Genera. For the purpose of clear comprehensive thought, we assemble things under kinds (*genera*); 130 (2, 3); 137 (8); 146 (8). *Genus* (kind) is one of the topics of internal argument; 6 (II. 1); 153 (16). It is one of the predicables of Aristotelian logic; 220 (4).
German Speculative philosophy. Remarks upon; 106 (foot-note); 111 (Note to Sect. 10); 117 (Note to Sect. 17).
Grammar. Distinguished from Rhetoric and Logic; 1 (1, 2); 101 (1); 144 (5, 6).
Grecian History. Subjects for Narrative Exercises from; 73.

Habit. Our acquiescence in the permanence of the natural course of things is moulded by habit; 152 (foot-note).
High style. Contrasted with the Colloquial and Middle style; 12 (2).
History of to-day. Example of a theme upon this subject; 65.
Homoioteleuton. One of the minor expedients of rhetoric; 19 (15).
Homonymous. *Homonymous* words are the same to the eye and ear, but different in meaning; as *bull*, a papal decree, and *bull*, the animal; in contradistinction to synonymous words, which are different to the eye and ear, but the same in meaning; as *angle* and *corner*. Paronymous words are either such as are nearly but not quite synonymous, or such as are grammatically allied to each other; for example, *logician* to *logic*; *firmness* to *firm*; *human* to *humanity*.
Hyperbaton. Transposition, when made for rhetorical effect; 15 (10).
Hyperbole. Rhetorical exaggeration; 21 (22).
Hypothesis, Hypothetical. Supposition, the state of mind under which knowledge is proposed, in order to be confirmed or set aside by experiment. A hypothetical proposition, when it is a mere *form* of *language*, takes its name from grammar; *our* logic is not, in this way, concerned with it; 168 (39, ad finem).
Hypotyposis. Vision, a figure in rhetoric; 22 (24).
Hysteron. A species of transposition in rhetoric; 15 (10).

Idea, Ideal, Idealism. *Idea* is a term liable to be so variously and vaguely applied, that, in a philosophical work, it is difficult to use it with safety. In Locke, it signifies what in this Manual is explained as the knowledge included under a word, whatever that word may be applied to signify. In many writings it means a conception, that is, the mental representation of some real thing, (see Conception), or what, in our doctrine, is called an *ideal* thing: it is often restricted to signify a *visual* ideal thing: —and lastly by the German Transcendentalists, it is used to signify what, in our doctrine, is called a thing metaphysical; *Idealism* is the doctrine of those who consider *ideas*, in this last mentioned sense, to exist originally in the mind; 106 (foot-note); 108 (9 and note); 109–112 (10 and note); 116 (17 and note).
Ignoratio elenchi. See Elenchus.
Image, Imagination. *Image*, in rhetoric, signifies the representation of something to the mind as an effect of emotion. *Imagination* is the

power or capacity to have emotions with such effects (compare Fancy, above). All the figures of speech, when in proper taste, spring from this power, and especially the more forcible; 22 (24); 52 (section 10).
Immortality. The Bible doctrine of the Immortality of man beyond the grave, and the Platonic doctrine of the Immortality of the soul, alluded to; 131 (foot-note).
Improvement in Style or Diction. The principle of such improvement as a part of Rhetoric, shown to differ from the improvement sought for in Grammar, and in Logic; 26 (Introduction).
Incrementum. A rhetorical ascent or gradation; 16 (12).
Induction, Inductive. *Induction* is the process of gathering knowledge; *Inductive logic*, that part of the art which teaches the use of words for this end; 101 (2); 104–111 (1–10). External arguments belong to Induction; 148 (12). Induction distinguished from Enumeration; 151, 152 (15).
Inference. A conclusion from premises in the inductive process; 107 ("In this process," &c.); 151 ("The argument from Enumeration," &c.); 154, 155 (17, 18).
Inflection. A slide or accent of the speaking voice; 57 (7).
Instinct. See Reason.
Intellection. The faculty of, (capacity for,) understanding: also, an act of the understanding, as a sensation is an act of the senses.
Interrogation. A form of sentence in rhetoric, otherwise called Erotesis; 13 (5).
Invention. The second part of Rhetoric; 3 (1).
Inward world. The same as ideal world; 108 (9).
Irony. A rhetorical figure in which, by our mode of delivery, we use terms of praise so as to signify the contrary; 20 (20).
Irrelevant premises. One of the modes of verbiage; 192 (10).
Is. This very abstract verb is called the copula, when employed to construct the syllogism of formal logic; 218 (3).
Judgement. Case in which we are properly said to use our *judgement*; 107 ("In this process," &c.). Judgement in Aristotelian logic is erroneously made a faculty of the mind, in contradistinction to Perception or Simple Apprehension, and Reasoning; 218 (3): 225 (8).
Judicial. A term applied to one of the three kinds of public speeches; 2 (4). Schoolboy cases for Judicial speeches; 84, 85.

Kant. His doctrine alluded to; 112 (note, ad finem); 117 (note to sect. 17); 135 (second foot-note).
Keeping the important point out of sight. A mode of rhetorical delusion; 126 (36).
Key to the Exercises for improving Style or Diction; 87–98. Key for correcting the sentences logically defective at pages 203, 204, and 206; 243.
Knowledge. Every separate word is the sign of knowledge, and all knowledge is in its nature abstract; 101 (3); 105–108 (2–9); 113 (12); 117 (18); 118 (21); 120 (28); 133 (3); 141 (2); 143 (4).

Language. Three arts, each having its own province, yet each assisting the others, join to render language perfect; 1 (1); 101 (1).
Letters. Subjects for familiar letters in writing rhetorical exercises; 74–81.

Literature. *Literature* may be said to grow out of a perfect use of language, such as Grammar, Logic, and Rhetoric teach. But Rhetoric is more immediately connected with Literature, with which indeed it is co-extensive; 2 (3, 4).

Litotes. A mode of rhetorical extenuation, otherwise called Meiosis; 21 (22).

Lively. One of the varieties of manner in delivery, arising out of certain emotive feelings; 58 (12); 59 (15).

Locke. *Locke* alluded to; 106 (foot-note). When logic shall be an art resting on a foundation universally admitted to be true, the merit of having turned inquiry concerning its nature and purpose, from the false direction into which Aristotle and his followers had led mankind, must be conceded, after Bacon, to John Locke, and to Horne Tooke. Yet both these men, in following out the well-conceived purpose of their respective inquiries, fell into egregious errors. Locke's purpose was, to inquire into the origin of human knowledge. This he pursues with too little regard to the moulding influence of language; and his distinction of Ideas into Simple and Complex, and these last into Modes, Substances, and Relations, are scarcely more than distinctions without a difference. On the other hand, Tooke attributes everything to language: he is a decided sensationalist, who, admitting Locke's foundation that our knowledge begins with sensation, admits nothing, except language, which is more than sensation; and while he argues justly against Locke's doctrine of Complex Ideas, sees nothing beyond the instrumentality of language in all beyond sensation. He hence concludes that *nouns* are the primary elements of language, and that *verbs* arose from nouns by the addition of something, which his Treatise ("Diversions of Purley") leaves unexplained. Horne Tooke was obliged to leave his speculation thus unfinished;—he had begun well, but he had taken a wrong turning. A course continued in the true direction, would have led him to the fact, that *verbs* are the primary language of our race,—are the speeches out of which, *nouns* are artificially evolved.

Logic. Logic discriminated from Grammar and Rhetoric; 1 (1, 2); 101 (1, 3); Aristotelian logic repudiated; 102 (note to chap. I.); Inductive Logic; 104 (1) Deductive Logic, 140 (1); the Aristotelian doctrine of logic explained, and then opposed by the Principles advanced in this Manual; 217–227 (1–11).

Major. An epithet applied to the term which is the predicate of the conclusion in the Aristotelian syllogism, 221 (4); and to the premise in which this major term is compared with the middle term, 222 (*ib.*). This premise is, in our logic, called the *datum*.

Materialism, Matter. These subjects alluded to; 131 ("There is an old division," &c. and foot-note).

Meditative. One of the varieties of manner in delivery, arising out of certain circumstances attending the speaker; 58 (11).

Meiosis. A mode of rhetorical extenuation, otherwise called Litotes; 21 (22).

Memory. *Memory* is conception, accompanied by the knowledge of time past, relatively to the actual present. But the term is often applied

to the readiness of reviving a whole series of mental acts, by reviving any one link of the series.

Metalepsis. A complicated metaphor; 20 (19).

Metaphor. A turn of a word from its proper application, so as to include a simile; 19 (17).

Metaphysical, Metaphysics. *Metaphysical* means the same as Transcendental, that is, transcending nature. *Metaphysics* are all those parts of learning which keep real and ideal (in one word, physical) things out of sight, or, at least only so far in sight as the weakness of the understanding may require; 109 (10, and note); 114–117 (15–17, and note); 118 (20, 21).

Method. *Method*, in many works on logic, follows Perception (or Simple Apprehension), Judgement, and Reasoning, as the fourth part of the art. As the first three distinctions are built on wrong grounds, so the fourth may be objected to, because it belongs to rhetoric much more than to logic:—See page 211, (" * It belongs to rhetoric," &c.) So far as *our* pupil in logic can be assisted with respect to Method in his essays to develop his knowledge, he will find appropriate instruction in Chapter V., from page 211, extending from Section 18 to the end of the Chapter.

Metonymy. A rhetorical use of one name for another; 19 (18).

Middle Style. Contrasted with the Colloquial and High Style; 12 (2).

Middle Term. That term in the formal syllogism with which the major and minor terms are separately compared; 219 (4); 222 (*ib.*)

Mill. Allusion to the doctrine of Mr. James Mill; 110 (first foot-note); —of Mr. John Stuart Mill; 120 (30, foot-note); 149 (foot-note).

Mimesis. Mimicry, or the sarcastic imitation of another's manner; 20 (21).

Mind. This subject alluded to; 131 (2, " There is an old division," &c., and foot-note).

Minor. An epithet applied to the term which is the subject of the conclusion in the Aristotelian syllogism; 221 (4); and to the premise in which the minor term is compared with the middle term; 222 (*ib.*) This premise, in our logic, is called the *argument* or *reason*.

Mode or Mood of a Syllogism. The difference in an Aristotelian syllogism, which is determined by the quality (affirmative or negative) and the quantity (universal or particular) of its premises; 223 (5).

Modulation. The management of the accents and the key of the voice in delivery; 57 (7).

Moral. As a term in logic, this word means *customary*, or having all the force which can be derived from custom. In this sense it is opposed to metaphysical. Thus, it is *morally* certain that we shall have thunder when the weather becomes very hot; it is *metaphysically* certain that the angles of every triangle are equal to two right angles.

Mutatis mutandis. Those things being changed, which the changed circumstances require; a Latin phrase often used in argument; 160 (24).

Names. These are proper, common, or abstract; 118 (20). Names of Arguments from three sources; 147 (11).

Narration, Narratives. The *Narrative* is one of the three kinds of Composition in rhetoric; 2 (4). The term is also applied to one of the

varieties of manner in delivery; 58 (9). Specimens of Narratives; 65, 67. Subjects for Narratives; 71–74.

Necessary. This term is properly applied to knowledge which is a part of some knowledge that includes it; 147 (10); 148 (12); 154, 155 (17–19); 164 (34).

Negation, Negative. See Affirmation. See also, No, Not.

Nerves. These, as they connect the organs of sense with the brain, seem, in the absence of the things of sense, to originate the ideal world; 108 (9).

No, Not. *No* or *Not* is an important element in the construction of the Aristotelian syllogism, but is viewed, in *our* logic, as a mere grammatical particle of no more logical importance than other grammatical parts of speech, 168 (39, "In our logic, again," &c.); 218 (3); 226 (9).

Nominal, Nominalist. A definition is called *nominal* when it does not explain the thing;—in contradistinction to a real one, which in some way does so; 134 (5). A *Nominalist* is one of a logical sect that, throughout the middle ages, opposed the Realists. (See in this Index Scholastic, Schoolmen.) The Realists maintained that universals correspond to *real* substantive ideas existing in the mind; while the Nomalists affirmed that they are *names* only; (viz., such names as, in this Manual, are called Common and Abstract.) The dispute in the old shape is now at rest, though in a new shape it still in some degree remains. Thus in a new shape we, in this Manual, are Nominalists, so far as we oppose the doctrine of original ideas, and the Idealists are Realists, so far as they maintain this doctrine. See 106–112 (6–10, and note).

Not. See No, above.

Not-being, Nothing. These words alluded to; 130 (2, and foot-note).

Notion. *Notion* may mean the knowing or knowledge of something. Having this sense, it is better to say of any single word that it is the sign of a *notion*, than that it is the sign of an *idea*. See Idea, above.

Object, Objective. These terms, as contradistinguished in modern philosophical use to Subject, Subjective, are alluded to; 137 (first foot-note); 175 (46).

Observation. Theme upon; 173.

Onomatopœia. The coining of a word from some natural sound; 19 (15).

Operations of the mind. These, which are said to be three in Aristotelian logic, are maintained to be but one in ours; 225 (8).

Opinion. This is a judgement or inference from limited facts, and therefore in different degrees, a real non-sequitur that awaits further facts.

Oration, Oratory. An *oration* is a speech: Oratory the art of speaking,—a term commonly used with a less comprehensive meaning than Rhetoric, which includes all that conduces both to good speaking, and good writing; 1, 2 (1, 2, 3, 4). An example of a school-boy's oration to his master; 69.

Outward. Objective; terms which, in the doctrine of logic, are applied to anything that is not already included in the mind. See Objective.

Oxymoron. In rhetoric, a saying which, though foolish if taken plainly, means a great deal; 18 (14).

Parade of logical forms. Caution against the delusion of such forms; 122 (32).
Paradiastole. In rhetoric, a peculiar sort of antithesis; 18 (14).
Paraleipsis. The same in rhetoric as *apophasis*, or omission; 21 (23).
Paralogy. False reasoning.
Paraphrase. The development in many words of what is, or may be expressed briefly. Its propriety can be justified only by its necessity. For an exercise to correct it when faulty, see page 32.
Parathesis. In rhetoric, the brief parenthetical notice of something, on which the speaker intends to enlarge when he has dispatched what is immediately in view.
Paregmenon. In rhetoric, a sort of antithesis; 18 (14).
Parenthesis. The insertion of a sentence within a sentence; 14 (8). Exercise including sentences requiring parenthesis; 45.
Paremia. In rhetoric, an allusion to a proverb; 20 (19).
Paronomasia. A pun; 18 (14).
Paronymous. See Homonymous.
Particular proposition. This in logic is opposed to a *universal* proposition; 223 (5).
Parts of speech. In what way logic is concerned with what are called so in grammar; 144, 145 (5, 6).
Pathetic. One of the general divisions of rhetorical composition; 2 (4).
Pedantic style. Exercise for correcting it; 32.
Pen. Its proper use in rhetoric; 2 (3).
Perception. The knowledge or recognition of an object through the senses; in other words, a sensation accompanied by a revival of acquired knowledge. Compare Conception and Sensation.—The division of Man into Mind and Matter (see page 131) has always been the source of infinite perplexity, when philosophers have attempted to explain how perception takes place. The difficulty remained to recent times, till the Scottish philosophers cut the knot, in utter hopelessness to solve it. What it was before their time, I shall quote from the Sequel to Sematology to show. "How the mind could have cognizance of matter, was with the Greeks a question in very early times. Shut up, as they assumed it to be, like a light in a dark lantern, how did it become acquainted with the things out of the body? It was agreed on all hands that the mind could operate only where it was present; and how could it be present to the things of the material universe? In answer to this query, some asserted that the mind walked out of the body in order to take cognizance of the things of sense; while another set asserted that it did not walk out of the body, and consequently that it did not perceive the things of sense at all, but only the species, images, or ideas of them. This was explained by assuming that all material things dispersed from themselves filmy or shadowy representations, which, being received by the senses, were by them transmitted to the mind, which treasured them up; and that, with regard to most of them, the mind, by its peculiar chemistry, sublimated the particular into general ideas. The difficulty was met in later times by Leibnitz, with a theory still more fanciful. He taught that the soul and the body could have nothing to do with each other, being sub-

stances altogether different; and that the correspondence of their actions arose from this,—that the Creator had pre-ordained a perpetual similarity of action between them, so that whatever one did, however different in nature from what was done by the other, was nevertheless accompanied by a correspondent act, the soul and the body always chiming together with unfailing exactitude."

Period. A sentence whose parts are grammatically dependent to the end; 14 (7). Exercise for the construction of periods, with preliminary instruction; 33–38 (sect 4 et seq.)

Periphrase. A circumlocution,—a roundabout expression.

Peroration. The concluding division of a regular oration; 10, 11 (2).

Persuade. To *persuade* is the object of the rhetorician; but to accomplish this, he must be able to instruct, to convince, and to delight; 1 (1, 2, and foot-notes). See also Conviction above.

Personal subjects for exercise in rhetoric; 71.

Petitio principii. Various forms of this logical error; 188–191 (6–9).

Philosophy, Philosophers. These are connected with Logic, because if *Philosophers* go astray, there must be something wrong in their means or purpose, while trying to come at the *wisdom* which they profess to *love*. But in a *Manual* of Logic, an examination of past and present philosophy, with a view to test, by its rules, what is sound or what is unsound in means or purpose, will at once appear an impossible undertaking. In place of such an examination where it would properly come in the body of a larger book, it is proposed, in this Index, to furnish, nearly in chronological order, the names of certain leaders of sects, especially those of Greece, accompanied by slight notices of the perpetual opposition of opinion by which the sects were multiplied and kept distinct.

THA'LES, the earliest Grecian philosopher of distinguished name, is supposed to have flourished nearly seven centuries before the Christian era. He was a native of Mile'tus in Io'nia; and because Anaximan'der, Anaxim'enes, Diog'enes of Apollo'nia, (who must be distinguished from Diogenes the Cynic,) and Archela'us, were either taught by him, or were also natives of Ionia, they are all included in what is called the Io'nian or Ion'ic school, although they did not all profess the same speculative opinions. In this they coincided, that the universe springs from some one material; but whether from water as Thales taught, or from air as others insisted; whether it was palpable and finite, or imperceptible and infinite, they were not agreed.

PYTHAG'ORAS, a native of the isle of Sa'mos not far from Ionia, is supposed to have flourished a little less than six centuries before the Christian era, though some make him contemporary with Thales. He taught that number was the essence and principle of all things, deemed the souls of men to be emanations of the divine substance, and joined to this doctrine that of the transmigration of souls. He founded his school at Crotona in Italy, and hence it is called the Italian, though sometimes the Doric school.

XENOPH'A-NES of Col'ophon, contemporaneously with Pythagoras, also founded in Italy, namely at the town of E'lea, a school, hence called the Eleat'ic, which changed the emanative system of the

Italian school for the doctrine of one eternal infinite being, identical with the universe; a doctrine now called pantheism. The other most eminent men of this sect were Parmen'i-des and Ze'no. The date of this last philosopher, who must be distinguished from Zeno, the founder of the Stoics, is about four centuries and a half before the Christian era.

HERACLI'TUS of Eph'esus also flourished, as is supposed, about four centuries and a half before the Christian era. Though he properly belongs to the Italian school, yet he so far thought for himself, as in general to be distinguished individually. He deemed the one pervading principle of the universe to be fire, but not the elemental fire or flame, for this he held to be the excess of fire:—it is, according to him, a warm dry vapour; and this is the same as vital energy or the soul.

LEUCIP'PUS, the disciple of Zeno the Eleatic (see above), and the teacher of Democ'ritus, was the founder of what is sometimes termed the lower Eleatic school. He discarded the transcendental universe of the elder Eleatics, and placed the foundation of his theory in the world of the senses. He is regarded as the original propounder of the Atom'ic doctrine, afterwards taken up by the Epicure'ans. Democritus was his disciple with some degree of dissent from his master, by a less exclusive adherence to what we at present call sensational philosophy. Democ'ritus has been called the laughing philosopher, because he inculcated cheerfulness as the main end of our pursuits, while the melancholy Heracli'tus is often spoken of as the crying philosopher. Protag'oras was the disciple of Democritus, and made himself remarkable by his maxim, that man is the measure of all things.

SOC'RATES, the philosopher rather of practical morals, than of speculative opinions which propose to include morals in wider doctrines, was born at Athens 468 B.C., and put to death 399 B.C. Laying aside the problems concerning the origin and nature of the universe, and how and why man exists as a part of it, the object of his instruction was to make men good, as the only way to make them happy.—As to his mode of teaching, see Socratic in this Index. A host of disciples succeeded; but some exaggerated and some corrupted his doctrines. Ce'bes, indeed, in his Picture of Human Life, conveys the doctrine of his master with beauty and truth, although there is a slight colouring borrowed from Pythagoras. Xen'ophon acted up to his master's principles, and in that way demonstrated their value. Diog'enes, the founder of the Cyn'ics (men who lived like *dogs* and snarled like them,) exaggerated his tenets and his manners. To another of his disciples we must give a distinct place, namely to

PLA'TO. The immortal sage who bears this name was born at Athens 429 B.C., and died B.C. 347. He is the founder of the Academ'ic school, an epithet derived from the grove of Acade'mus, in which he lectured. Instructed in all philosophy that preceded him, he taught what best harmonized with his own capacious and comprehensive mind. His leading doctrine is the independence of God or spirit, and Matter, as the two distinct eternal principles by which

all things exist, the one operating formatively on the other, but not creatively. Our impressions of outward objects are the produce of ideas and matter, the ideas of the human soul being copies of exemplars that reside in the divine mind; and these divine exemplars are more and more remembered by man, the more he sees of their imperfect copies without. Hence, the striving of the well-taught soul to reach perfection.—See at Plato in this Index, references to allusions in the Manual.

AR'ISTOTLE, who was born at Stagi'ra in Mesopotamia, B.C. 384, and died 322, was for twenty years the disciple of Plato, but he at length divided from his master, and became the head of the Peripatet'ics, who were so called from the place in the Lyce'um, where they *walked* and discoursed. Among the points on which Aristotle differed from his master, one was his theory of ideas. Aristotle taught that ideas are the phantasms of things, and not the eternal intellectual types, which in Plato's doctrine give form to the things of sense:—See at Aristotle in this Index, references to parts in the Manual where his Logic is considered. See also Scholastic, Schoolmen.

ZE'NO, who must be distinguished from Zeno the Eleatic (see above), was the disciple of Pol'emo, an Academic; but he divided from his school, and became the founder of the Stoic philosophy. He was born in Cyprus, in some year between 357 and 352 B.C. and died in some year between 263 and 259 B.C. He taught at Athens in a place called the Porch or Portico, (Stoa,) whence the name of the Sect. To him must be attributed a sound division of all learning into Physics, Ethics, and what may be called Semeiotics, which latter department includes the Trivium,—Grammar, Logic, and Rhetoric. It was for its ethics that the Stoical philosophy was remarkable. A wise man, it taught, is unmoved by joy, grief, or other passion, esteeming all things as governed by an unavoidable necessity. In physics, it taught that the universe consists of cause and of matter. Death is the separation of the soul and body, but they are both material, and the former, though it continues after death, is perishable. The soul of all things is indeed imperishable, and of that soul all that has life, is part.—Among the great men that, in subsequent times, were of this sect, may be mentioned Ca'to of Utica, (ob. 46 B.C.,) Sen'eca, the Roman tragic poet, (ob. A.D. 65,) Marcus Aurelius, the emperor, (ob. A.D. 180,) and Epicte'tus, the Phrygian, the time of whose death is uncertain, but he is known to have lived into the times of the last-mentioned emperor.

EPICU'RUS taught at Athens while that city was thronged with Academics, Cynics, Peripatetics and Stoics, in all the vigour of recent institution. He died 270 B.C. His philosophy contrasts, in morals, most strongly with that of the Stoics. He made the senses the test of truth, and prudence the chief of virtues, because it restrains the appetite for pleasure only so far as indulgence would be hurtful to it. He maintained the atomic philosophy in physics, or that which attributes the universe to the confluence of atoms, that, being endued with gravity and motion, formed all the things of sense without the aid of a supreme intelligent power.

PYR'RHO is the best known of philosophers who bore the name of

Sceptics or doubters. He flourished about three hundred years before the Christian era at Elis in the Peloponne'sus. When the Stoics divided from the Academy, the remaining disciples of this school set themselves in opposition to the Stoics, and Scepticism was the effect, or the practice of controverting whatever was attempted to be taught as truth:—in fact the aim of the sceptical philosophy was to maintain the incomprehensibility of all subjects, and their art was the ability to speak with equal plausibility on both sides of every question. The school is called the New Academy, which further divided into the Second, Third and Fourth Academy.

In passing from philosophy and philosophers of ancient days to those of comparatively modern times, it will scarcely be fitting, in this Manual, to mention much more than the names of some philosophers, who led the way for speculation as it exists in our days. Something concerning modern speculators has already been offered:—see the references in this Index to Sensationalism and Idealism:—and for the peculiar character of all learning during the dark and middle ages, see in this Index Scholastic, Schoolmen. In Italy, Cardan, Bruno, and Campanella, who flourished from about the middle of the sixteenth to the beginning of the seventeenth century, opposed their own ways of thinking on the universe, the Deity, and the destinies of man, to the prevalent religious doctrines. The latter two met the then fate of heretics; a fate which entitles them to a respect which their opinions would scarcely claim; since these were nothing more than revivals, or mixtures, or modifications of the doctrines of the ancients. Descartes (ob. 1650) was the first of modern speculative philosophers, that, casting off the authority of the ancients, determined to think for himself. His philosophy, however, in the hands of his followers soon passed nearly into the old channels; Spinosa (ob. 1677) and Malebranche (ob. 1715) being both of them pantheists, the former material, with the Eleatics of old; the latter spiritual, with the Stoics and Pythagoreans. Hobbes, the philosopher of Malmsbury in Wiltshire, flourished about the same time as Des Cartes, and published bold opinions, that militated against religious motives of action, in a work called Leviathan. Leibnitz, a German, was also a contemporary; and his speculations, while they were more ingenious, were less offensive to the religious world. He is mentioned here on account of his doctrine relating to spirit and matter. (See Perception in this Index.) Hume was an English philosopher of the last century, whose doctrine threatened to undermine our reliance both on secondary causes, and on a First Great Cause. He has been met by many antagonists since his time, and among them by Dr. Brown, one of the Scottish School, whose Inquiry into the relation of Cause and Effect might be far more triumphant than it is; for "it is vitiated," says Sir John Herschell, "by one enormous oversight,—the omission, namely of a distinct and immediate personal consciousness of causation in his enumeration of the sequence of events by which volition is made to terminate in the motion of external objects." It is by observations like this last, which trace our highest knowledge from our first and firmest experience, that truth is more effectually served than by whatever specu-

lative opinions, if they have no other foundation than the busy agitation of the human brain.

Physical. Natural, including *real* and *ideal*, in contradistinction to *Metaphysical*, or transcending the real, and *ideal;* that is, the ideal which is a transcript or a combination of the real; 109 (10); 118 (12); 131 (2).

Physico-logical. An essential definition of a thing-physical is so called; 137 (8).

Plain. Style or diction so called in contradistinction to figurative; 12 (3). A delusion from confounding this sense of the word with another; 124 (34).

Plaintive. One of the varieties of manner in delivery, arising out of certain emotive feelings; 59 (14).

Plato. The doctrines of this philosopher alluded to; 109 (Note to Sect. 9); 111 (Note to Sect 10); 131 (foot-note). See also Philosophy, Philosophers in this Index.

Pleonasm. Rhetorical redundancy; 17 (13).

Ploce. A peculiar figure of speech in using a proper name; 18 (14).

Polyptoton. A sort of antithesis in rhetoric; 18 (14).

Polysyndeton. A way of prolonging an enumeration in rhetoric; 16 (12).

Positive. *Placed*, set, appointed: to this meaning *negative* may be opposed, and in the sense requiring such opposition, the word *negative* has in our system a logical value: not so when opposed to affirmative; see No, Not: see also Affirmative.

Practical, Practice. *Practical* directions concerning Inductive Logic, 113–129 (11–36): Concerning Definition; 134–140 (4–8, and Notes): Concerning Deductive logic; 145–179 (7–45): Concerning Errors in deductive *practice;* 180–217 (1–22).

Predicables. What they are in formal logic;
Predicaments. What they are in formal logic; } 220 (4).

Preliminary conditions. The necessity of such conditions on proposing a dispute or discussion; 139 (second Note to Chap. III.)

Prolepsis. *Anticipation*, a rhetorical expedient: 21 (23).

Premises. What they are in our logic; 101 (1); 141 (2); 147 (10). What they are in formal logic; 222 ("When we have to show," &c.)

Pronunciation. The limited or special meaning of this term in modern tuition; 56 (5).

Proper names. This is a logical distinction, though commonly borrowed by grammar; 118 (22).

Property. *Property* distinguished from Accident; 136 (7); 158 (22). It is one of the five predicables in Aristotelian logic: 220 (4).

Proposition. In rhetoric, one of the occasional divisions of a regular oration; 10 (2). In logic, a *proposition* is a sentence which develops knowledge in a greater or less degree, and in *our* logic considered to be a virtual syllogism; 145 (6);—in Aristotelian logic, considered to be the enunciation of a *judgement*, and hence distinguished from *reasoning* as expressed by the syllogism; 218 (3); 223 (5).

Prose. A purely logical exercise must be in *prose*:—rhetoric employs prose for its ordinary productions; but since it includes poetry, it also includes *verse;* 2 (4).

Proximum genus. The genus immediately next above the subject of defi-

nition, to which genus we have to add the specific difference, and the subject is defined; 132 (2).
Purely logical. An essential definition of a thing metaphysical is so called; 137 (8).

Quaintness of style. Instruction and Exercise for correcting it; 27, et seq.
Quality and Quantity of Propositions. These are distinctions in Aristotelian logic, the former of which our logic resigns to grammar, admitting only the latter; 221 ("Then we have a difference," &c.), and 223 (5).
Questions for discussion. Outlines for school speeches; 82 (9–11). Absurdity of some such questions; 139 (second note to Chap. III.)

Real. *Real* things in contradistinction to *ideal;* 108 (9); 117 (18); 131 (2). A *real* definition in contradistinction to a nominal one; where, it must be remembered, the epithet is used with a less strict application; 135 (6).
Realist. See Nominalist.
Reason. *Reason*, in a special sense, means the same as Argument; which see. As the name of that capacity in man which distinguishes him from brutes, we may say, that it is the capacity to use signs of knowledge gained, in order to accumulate further knowledge; and to use the same signs in order to develop the knowledge accumulated. Briefly, man is a creature capable of language,—to use the Homeric epithet, a *voice-dividing* creature, that is, one who divides a natural cry into *parts of speech*. Be it observed that the born-deaf, and consequently dumb, have the mental capacity, though they want the exterior organ for language. We may again, in other words, say, that Reason is the power of abstraction. Brutes have knowledge with their sensations, but *their* knowledge is never abstract, that is, cannot be entertained apart from their sensations: this is Instinct; and this its true difference from Reason.
Relation. *Relation*, in Aristotelian logic, and even in Locke's Essay, is a distinct general head, set in contradistinction to other general heads under which the subjects of thought are accumulated. In *our* logic, it is *that* in which all knowledge has its origin and its existence: that is to say, in our logic, to know anything is to be aware of its relation to some other thing or things, and the relation of all these things to oneself.
Repetition. Rhetorical figures of *repetition;* 17 (13).
Rhetoric. *Rhetoric* distinguished from Grammar and Logic; 1 (1, 2); 101 (1).
Roman history. Subjects for Narrative Exercises from; 72.

Sarcasm. A figure in rhetoric that derives its force from the speaker's manner; 20 (21).
Scepticism. See Philosophy, Philosophers, above. All speculative philosophy, that is, philosophy (if so it must be called) which builds on hypothetical grounds, must, through its very character, terminate in scepticism.

Science. Strictly, that which can be demonstrated from self-evident truths; and as such demonstration is impossible in physics, we must look for it, strictly, in metaphysics alone; 109 (10).

Scholastic, Schoolmen. *Scholastic* learning and the *Schoolmen* alluded to; 134 (3). The father of the Schoolmen was John Scotus Erigena, a native of Ireland, who lived in the ninth century, and first introduced, from what source is unknown, the philosophy of Aristotle. Though at first opposed, it was soon adopted by churchmen as a scientific basis of the doctrines they taught, and it continued to be mixed with divinity and all other learning during full five centuries, in which time, however, we may trace certain eras and changes. A new era commenced with the rise of the Nominalists (see Nominalist) under John Roscelin, a Frenchman, who flourished in the twelfth century. The celebrated Abelard was his disciple. The third period saw the introduction into Europe of the writings of the Arabian philosophers, the translation of Aristotle from different versions into Latin, his undisputed predominancy in all the schools, and the complete triumph of Realism. It is at this time, namely, in the thirteenth century, that we have the great names among the schoolmen, such as Albertus Magnus, Thomas Aquinas, and Duns Scotus; the latter two of whom had their sects distinguished by the names of Thomists and Scotists. In reaching the days of William of Ockam, who died in 1374, we attain another era. His mind, better constituted or better taught, threw off much that was trifling, and more that was erroneous, in the prevalent learning; and in a little more than a century from his time, we begin to lose the distinctive features which the term scholastic is intended to signify when applied to literature.

Second intention. A term in formal logic to signify what in our logic is called a special meaning; 120 (26).

Sensation, Sensationalism, Sense. A *sensation* in itself is nothing more than a state of one's animal being; it is not perception till knowledge is joined to it. *Sensationalism* is the doctrine of those who think that knowledge begins by being sensation. A *sense* is the organ through which a sensation is received; 106 (6, and foot-note); 109 (note to Sect. 9); 110 (first foot-note); 111 (note to Sect. 10). The sense of any single word is the knowledge which it signifies; of two or more words is the development of knowledge; 101 (1, 2); 143 (4).

Sentiment. This term, though etymologically allied to the preceding, deviates from them in meaning, at least when the former are strictly applied. It includes knowledge, and emotion joined to knowledge; and is connected in meaning with the word *sense* only when the latter is loosely applied, so as to imply both sensation and thought; as in saying "He has a grateful *sense* of your kind acts."

Shifting senses of a word. Caution against the delusion hence arising; 124 (34).

Simile, Similitude. This is a figure in rhetoric; and also one of the topics of internal argument both in rhetoric and logic; 8 (II. 3); 19 (16); 159 (23).

Slides of the voice. The tones that form the modulation of speech; 57 (7).

Socratic. The *Socratic* method of reasoning, consisted in so putting ques-

tions, that the respondent, by his admissions, was led, step by step, to yield the conclusion in view. *Socrates*, see Philosophy, Philosophers.
Solemn. One of the varieties of manner in delivery, arising out of certain emotive feelings; 59 (16).
Sophistry. Suggestions for avoiding the delusions it creates, during the inductive process of learning; 121–129 (31–36).
Sorites. A form of language arising from an accumulation of arguments; 167 (38).
Special, Specialize, Specialization, Species. *Special* means, singled out by particular characteristics from the genus or kind to which the thing belongs; *Specialize* is to make special by reduction from a general application. *Species* means a *sort* under a kind or genus; 6 (II. 1); 120 (26); *ib.* (30); 137 (8); 146 (8); 153 (16).
Spiritualism. In speculative philosophy, this word signifies the doctrine that all which exists to the understanding is spirit or mind; a conclusion inevitable if we admit the doctrine of ideas as taught of old, or even as expounded by Locke. For if the mind is cognizant only of ideas, it is as much as to say, that the other presumed substance, namely matter, exists not to the mind, ideas being of the nature of the mind itself. Berkeley's theory is, in fact, incontrovertible while we adhere to the distinction between *mind* and *matter*, and the doctrine of *ideas* in connection with that distinction.
State of the case. One of the divisions of a judicial oration; 10 (2).
Stewart. *Dugald Stewart* alluded to; 104 (in the note to Chap. I.); 156 (foot-note); 219 (foot-note).
Style. Colloquial, Middle, and High *Style* exemplified; 12 (2). Instruction and Exercises for improvement in style; 26–55.
Subaltern genus. That which is a species with respect to some higher genus; also that which has only species immediately under it; 132 (2).
Subject, Subjective. See Object, Objective.
Subject-matter. Where there is no subject-matter to be understood, there can be nothing understood. Hence, a monstrous absurdity in the doctrine of the formal syllogism; 142 (note to Sect. 2, ad finem.)
Summum genus; *pl.* Summa genera. The highest genus; 130 (2). The *summa genera* of Aristotelian logic; 220 (4).
Syllogism. The syllogism virtually exists in every form of speech developing thought by two or more words. The name, however, is strictly given only to the form consisting of three propositions, the first and second being premises, out of which a necessary truth arises, which is expressed by a third preposition called the conclusion; 101 (1); 141, 142 (2 and note); 163–167 (33–36).
The syllogism of formal logic. 217–225 (1–6).
Symploce. A mode of repetition in rhetoric; 17 (13).
Synathrœsmus. Accumulation, a figure in rhetoric; 16 (12).
Syncategorematic. See Category, Categorematic.
Synchoresis. Concession, one of the expedients of rhetoric; 21 (23).
Synecdoche. Comprehension, a figure in rhetoric; 19 (18).
Synepy. The complete union in delivery of words that join to make sense; 57 (6).
Synœceiosis. A sort of antithesis in rhetoric; 18 (14).

Synonymous, Synonymy. *Synonymous* words are those that differ in spelling and sound, but are the same in meaning; as *periphery* and *circumference*: compare Homonymous. *Synonymy* in rhetoric is one of the figures of repetition; 17 (13).
Synthesis. See Analysis.

Tactual impressions. These are probably the early inlet of all our fundamental knowledge; 109 (note to Sec. 9).
Tapinosis. A method of rhetorical extenuation; 21 (22).
Technical language. Though in the *argumentum ad doctrinam* technical language is justifiable, it ought not to be used in ordinary cases; 4 (3); 27 (Sect 1, and examples at bottom of page 28 and top of page 29).
Testimony. This is one of the topics of external arguments; 6 (I.); 148 (12).
Themes. *Themes* are an admirable means of bringing a learner to a consciousness of his deficiencies in the inductive process of logic: the word theme has two meanings; examples of themes; 113 (11); 171 (43); 173, 174 (45); 184 (3); 185 (4). Outlines for themes; 229.
Thesis. A *Thesis* is a theme given out in the form of a proposition; 177–179 (47).
Thing. This is a term including every possible subject of thought, except Nothing or Not-being; 130 (2). In this Manual, *things* are distributed into things-physical and things-metaphysical; and the former into things-real and things-ideal; 131 (2). *Nothing* or *Not-being* is a thing-metaphysical.
Thinking. That conscious state in which things present themselves really, or ideally, or in part really, in part ideally, either under familiar relations or under new relations to each other and to the thinker; 141 (2). One of the effects of thinking described; 212 (18).
Tooke. For an allusion to Horne Tooke's doctrines, see Locke above.
Topic. *Topics* are so called, as being the *places*, where arguments are to be found; 5–9 (II. 1,—II. 3); 148–160 (12–24).
Transposition. Examples of rhetorical transposition; 15 (10). Also of sentences whose parts require redistribution; 38–42 (Sect. 5).
Triads of propositions. The number of these that can be made up out of the Aristotelian extremes and middle term, joined by *is* and *is not*; 223 ("Now disregarding," &c.), and 224 ("And as, in the first," &c.)
Trope. A *trope* is distinguished, by some teachers, from a *figure* of speech; 12 (3, and foot-note); 19 (16).
Trust not appearances. Example of a thesis on this subject; 177–179 (47).
Truth. *Truth* is knowledge that is held with certainty. But what is truth to one individual mind, may not be truth to others. Hence, we often justly speak of truth as something independent of the mind, namely as knowledge yet to be reached, and even as knowledge beyond all present reach.

Vehement. One of the varieties of manner in delivery, arising out of certain emotive feelings; 59 (13).
Verb or Word. The verb or word is never logically complete, till all is expressed by it which we intend to develop; 144 (5).

Verbiage. Varieties of error under this name exemplified; 180 (2); 188–204 (6–14).
Vowel sound. What a *vowel-sound* is; 56 (3).

Universal. A *universal* proposition stands opposed, both in Aristotelian, and in *our* logic, to a *particular* proposition; 221 ("Then we have a difference," &c.), and 223 (5).

Wedgwood. *Mr. H. Wedgwood* alluded to; 109 (note to Sect. 9).
Whately. *Dr. Whately* alluded to; 102–104 (note to Chap. I.); 110 (second foot-note); 116 (foot-note); 122, 123 (32, and foot-notes); 124, 125 (34); 134 (4, and foot-note); 138 (first foot-note to Chap. III.); 142 (note to Sect. 2); 144 (foot-note); 191 (9); 193, 194 (9, continued); 197 ("Hence it is matter of complaints," &c.); 219 (foot-note); 226 (foot-note).
Whewell. *Dr. Whewell* alluded to; 111 (note, sect. 10); 156, 157 (foot-note).
Will. The impulse of desire, accompanied by the knowledge, that what we desire we have the power to compass.

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